The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 718.—Vol. XIX.] LONDON, SATURDAY, MAY 26, 1849. [Price 6d.

MERIONETHSHIRE.
IMPORTANT SALE OF FREEHOLD FARMS AND MINERAL VEINS.

MR. EDWARD EDWARDS will SELL, BY AUCTION (by direction of the assignees of Mr. Griffith Evans, a bankrupt), at the WYNNSTAY ARMS HOTEL, in the town of MACHYNLLETH, on Wednesday, the 6th day of June, 1849, between the hours of Four and Six in the afternoon—subject to such conditions as shall be then produced; and in the following, or such other lot or lots as shall be determined upon at the time of sale:—

LOT I.—DYFFRYNGWYN FARM AND ALLTLWYD,

containing respectively 197 A. 3 R. 36 P., and 139 A. 1 R. 4 P., now in the occupation of Mr. Evan Anwyl. The arable, meadow, pasture, and wood land is of rich quality; there is a valuable LEAD MINE on the farm, and the buildings, the principal of which have been recently erected, and conveniently laid out, are in an excellent condition. 1

LOT II.—TYDDYNYBRIDDELL FARM,

containing 190 A. 3 R. 39 P., in the occupation of Mr. William Jones, with the valuable LEAD and COPPER VEINS thereon. The ore is of superior quality, and a moderate outlay of capital would, probably, render the mine (which is now being worked) very productive. The land is capable of great improvement.

LOT III.—ONE UNDIVIDED THIRD PART OF BRYNDINAS FARM AND PANTYMORLLYN,

comprising rich arable, meadow, pasture, and wood land, in the occupation of Mr. John Vaughan, and containing 242 A. 1 R. 22 P.

LOT IV.—LLANERCHYLLUN FARM,

containing 210 A. 2 R. 11 P. of excellent arable, meadow, and pasture land, in the occupation of Mr. William Jones. The land is in good condition, as are also the buildings.

The farms and lands described in Lots I., II., and III., adjoin each other; they are well sheltered from the east and north winds, and form the greater portion of the beautiful and fertile vale of Dyffryngwyn. There are several coppices of thriving oak and other plantations upon these farms, which are well stocked with game; and there is excellent lake and river fishing in the neighbourhood.

The distance to the seaport and delightful watering place of Aberdovey, where lime and coal may be obtained very cheap, is about 3 miles from Lots I., II., and III., and about 1 mile from Lot IV. A good turnpike road passes through the estate, from the town of Machynlleth, distant 8 miles, to the town of Towyn, distant 3 miles.

LOT V.—SIX DWELLING HOUSES AND PREMISES,

called PENYGARN, held under a lease granted to Mr. David Edwards (the unexpired term of which is 86 years), situate within about 4 miles of Aberystwith, on the south side of the turnpike-road leading from that town to Machynlleth.

For further particulars apply to Charles Turner, Esq., official assignee, 53, South John-street, Liverpool, and to Messrs. Davies and Howell, solicitors, Machynlleth.

AT ST. ROLLOX, GLASGOW—5TH, 6TH, AND 7TH JUNE.
TO RAILWAY CONTRACTORS, TIMBER MERCHANTS, BUILDERS, IRONFOUNDERS, ENGINEERS, MILLWRIGHTS, SMITHS, &c.

MESSRS. HUTCHISON & DIXON have again been favoured with instructions from Messrs. John Stephenson and Co., railway contractors, to SELL, BY AUCTION, on Tuesday the 5th, Wednesday the 6th, and Thursday the 7th of June, commencing at Eleven o'clock A.M. each day, at the Yard, Inchbelly-road, immediately behind the Caledonian Railway Company's engine sheds, St. Rollox, Glasgow, a most valuable and extensive lot of 2

RAILWAY MATERIALS, STEAM-ENGINES, &c.,

Used in the construction of the Scottish Central and Midland Railways.

Among the articles may be enumerated, a large quantity of earth waggons, wheels and axles, loose axles, crab winches (single and double powers), travelling cranes, quarry cranes, steam cranes, a number of Henderson's patent derrick cranes, pumps, various sizes (from 6 to 12 inches), with buckets, rods, and bell cranks, a very large quantity of ironwork for earth waggons, smiths' bellows, anvils, iron sheave and snatch blocks, wooden sheave blocks, tackle falls, fans, boggies, dobbing carts, timber and stone waggons, picks, pinches, wheeling planks, taps and dies, spikes, sulphate of copper, a large quantity of double shear and cast steel, bar iron, &c.

A HORIZONTAL HIGH-PRESSURE STEAM-ENGINE, cylinder 10 inches diameter, and 14-inch stroke, with boiler and mounting.

A BEAM HIGH-PRESSURE STEAM-ENGINE, with moving column, cylinder 15 in. diameter, and stroke 3 feet, boiler mounted on the locomotive principle, with mounting, besides numerous other articles of [illegible] connected with contracting work.

The above PLANT is in excellent condition, and to parties entering into contracts, this sale will be found a most advantageous opportunity of purchasing valuable materials, not often to be acquired at a cheap rate.

Catalogues will be ready eight days previous to sale, and may be had at the contractor's offices in Liverpool, Carlisle, Perth, Greenock; or here at Messrs. P. and W. M'Lellan's, 129, Trongate, and the Black Bull Sale Rooms, 8, Virginia-street, from Hutchison and Dixon, Auctioneers.—Black Bull Sale Rooms, Glasgow, May 22, 1849.

EXTENSIVE IRON-WORKS FOR SALE.
UPSET PRICE FURTHER REDUCED TO £45,000.

TO BE SOLD, BY PUBLIC ROUP, within the Royal Exchange Sale Rooms, GLASGOW, upon Wednesday, the 13th day of June next, at One o'clock afternoon (if not previously disposed of by private bargain), 3

THE BLAIR IRON-WORKS,

belonging to the Ayrshire Iron Company, situated in the parish of Dairy and county of Ayr, including FIVE BLAST-FURNACES, with TWO BLOWING-ENGINES, fit for these and additional furnaces, manager and workmen's houses and stove, together with a large extent of MINERAL FIELDS, held under most favourable leases, producing Ironstone of the best qualities, Coal, Limestone, and Fire-clay, with Pit, Steam-Engines, and necessary appurtenances for carrying on the works on an extensive scale; also the adjoining

MALLEABLE IRON-WORKS,

So far as erected—all having a connection with the Glasgow and Ayr Railway, and as more fully described in former advertisements.

There is a large stock of ironstone on the ground, which may be had at a valuation.

For particulars apply to Mr. Biggart, at the works; W. D. Starlin, Esq., 13, Change-alley, Birchin-lane, London; Mr. Watson, 32, or Mr. Brown, 35, St. Vincent-street, Glasgow.—Glasgow, May 10, 1849.

SALE OF MODUM BLUE COLOUR WORKS, SMALT WORKS, AND COBALT MINES, IN NORWAY.

BY ORDER OF THE COURT OF BANKRUPTCY.

The SALE of the PROPERTY belonging to the copartnership called MODUM BLUE COLOUR WORKS, will be HELD at the GRANGE OF FOSSUM, in the parish of MODUM, Bailliship Buskerud, Bishopric Christiania, in the kingdom of NORWAY, ON WEDNESDAY, THE 20TH OF JUNE, 1849, 11

AT ELEVEN O'CLOCK A.M.,

Consisting of the BLUE COLOUR WORKS, MINES, BUILDINGS, LANDED FORESTS, SAW and CORN MILLS, as well as all IMMOVABLES belonging to the WORKS, besides all RIGHTS and PRIVILEGES belonging to it; also the ORES, BLUE MANUFACTURED GOODS, and INVENTORY, being in STOCK at the WORKS or ELSEWHERE DEPOSITED and MORTGAGED in NORWAY.

The STOCK of MANUFACTURED BLUE COLOURS (smalts) will BE SOLD SEPARATELY.—The buyer acquires the claims of the works against the labourers and others.

The provisional notice of the Sale of the Modum Blue Colour Works appeared in this paper on the 28th April, with a short description of the property, and on the 5th May, with further particulars.

The conditions of sale will be lodged in due time.

Möllenhof, near Drammen, the 25th April, 1849. G. P. HAGER.

Inquiries may be addressed to Goodhall and Reeves, London.

JAMES BOYDELL, LAND, MINE, AND MACHINERY VALUER, AND AGENT,

No. 54, THREADNEEDLE-STREET, LONDON,

HAS TO DISPOSE OF 5

A PATENT RIGHT for BUILDING VESSELS with IRON, on a principle which combines increased strength with greater economy of manufacture.

Also, ONE for the CONSTRUCTION of IRON ROOFS, on a like principle. A specimen of this may be seen as a roof covering one of the resort houses of the Birmingham and Staffordshire Gas Company, by permission of Mr. Clift, the engineer, at the works.

Also, ONE for IRON JOISTS and RAFTERS, and for a plan of joining large plates and sheets of iron.

Also, ONE for the AMALGAMATION of STEEL and IRON—in the progress of the manufacture of the latter, by which a great saving may be effected in the cost of making edged tools.

The LEASE of a very celebrated FOUNDRY and ENGINEERING ESTABLISHMENT, on the River Dee, complete, with fixtures, machinery and tools, in working order, and ready for any parties to embark at once on building first-class iron steam-vessels, and marine and locomotive engines.

The above will be found worthy the attention of any parties desiring to invest money in a profitable business, as they will be disposed of upon terms which will ensure an unusual return to the purchasers of them.

Also, SOME COAL and IRONSTONE MINES, FREESTONE QUARRY, and a large FREEHOLD ESTATE.

Also, STEAM-ENGINES and MACHINERY, of all descriptions, and which he is enabled to offer at very moderate prices.

Also, SHARES in a well-known valuable SLATE QUARRY, in CARNARVONSHIRE.

Also, SHARES in, or the whole of, a GAS-WORK, which supplies exclusively a populous town in Shropshire, and which can be greatly extended.

Particulars of the above may be had, upon application, at 54, Threadneedle-street.

TO ENGINEERS, BUILDERS, AND ARCHITECTS.

JAMES BOYDELL, 54, THREADNEEDLE-STREET, having been a very large manufacturer of machinery and irregular shaped iron, and having accomplished the rolling of some descriptions of the latter, thought by many to have been impracticable, will be happy to ASSIST any ENGINEERS, SHIPBUILDERS, and ARCHITECTS, in the planning of the details of what IRONWORK they may have occasion for, or bringing to perfection any invention in machinery, as well as procuring such materials for the purpose as they may require.

Stannaries of Cornwall—In the Vice-Warden's Court.

RICHARDS *v.* KITTO THE YOUNGER. 6

IN RE GRAMBLER AND ST. AUBYN UNITED MINES.

NOTICE IS HEREBY GIVEN, that, pursuant to an Order, or Decree, made in this cause, and bearing date the 12th day of May instant, a PUBLIC AUCTION will be HELD at ANDREW'S HOTEL, REDRUTH, on Thursday, the 7th day of June next, at Three o'clock in the afternoon, for SELLING, in such lots as shall be then and there determined on, EIGHT (244ths) PARTS, or SHARES, of and in the said MINES, and the LIKE PARTS, or SHARES, of and in the ORES, HALVANS, MACHINERY, and MATERIALS, and other EFFECTS upon and belonging to the said mines.—For further information application may be made to the agents on the mines, or to

Dated Registrar's Office, Truro, May 23, 1849. Mr. STOKES, Solicitor, Truro.

IMPROVEMENTS IN MACHINERY FOR, OR METHODS OF, MANUFACTURING ROPE or CORDAGE, and IMPROVED MODES of FITTING and USING the SAME.

ANDREW SMITH'S PATENT WIRE ROPE.—The Undersigned respectfully inform the public that they have become the LICENSEES of Mr. ANDREW SMITH, for the MANUFACTURE and SALE of his PATENT WIRE ROPE, and that they have REMOVED from the premises (late Mr. Smith's) at Millwall to HIGH-STREET, WAPPING, where orders will be executed with the utmost attention and dispatch.—Lightning Conductors, Signal Cord, and Sash Line, always in stock. WILKINS & WEATHERLY. 7

Patent Wire Rope Works, 39, High-street, Wapping, London, May, 1849.

STRUVE'S PATENT MINE VENTILATOR.
TO COLLIERY PROPRIETORS.

Quantity of air passed through a Mine almost unlimited, to the extent of 200,000 cubic feet per minute, if necessary—depending on size of apparatus. 8

No injury to pumps, tubbing, chains, ropes, or pitwork.

Goaves kept clear.

Not influenced by barometrical and thermometrical changes in the atmosphere, or by wind

Current of air undeviating.

LICENSES will be GRANTED on application to
Mr. WILLIAM PRICE STRUVE, C.E., Swansea.

The ventilator has been erected at the Eaglesbush Colliery, near Neath, and is perfectly efficient, and may be viewed on application to the proprietors, Messrs. Penrose and Evans, Neath.

WARRANTED SAFETY FUSE.—W. BRUNTON & CO. beg to inform Mine Agents, Contractors, and Merchants, that having completed their Machinery for the MANUFACTURE of the ABOVE ARTICLE, they are enabled to offer FUSE of a very superior quality, and at considerably reduced prices. 9

W. B. & Co. can SUPPLY FUSE in ANY LENGTHS that may be required.

Penhellick Fuse Factory, Pool, Truro, Cornwall.

TESTIMONIALS.

We, the undersigned, hereby bear our testimony to the excellence of the Safety Fuse, manufactured by Messrs. Brunton and Co. We have had it in use in our mines; and, after sufficient trial, find it to be fully equal to any Fuse we have ever used:—

Carn Brea Mine.
R. H. Pike, Purser.
John Leuten, James Miners, John Vivian, John James, } Agents.

North Pool Agents.
James Evans.
John Nancarrow.
Frederic Evans.

South Roskear Agents.
John Dunkin.
William Thomas.

Cook's Kitchen Agents.
Joseph Vivian.
Richard Bennetts.

Cook's Kitchen Agents.
John Ivey.
William Hitchens.

North Roskear Agents.
Joseph Vivian.
William Michell.
William Thomas.

Tincroft Agents.
Peter Floyd.
Thomas Stainsby.
Thomas Lean.
Henry Hocken.
Richard Martin.
William Nancarrow.
Alex. Endey, Joseph Endey, } *Wheal Agar Agents.*

PREVENTION BETTER THAN A CURE.—RAILWAY COMPANIES, OWNERS and PROPRIETORS of STEAM MACHINERY in general are respectfully informed, that the ONLY INFALLIBLE METHOD of PREVENTING BOILER INCRUSTATIONS 10

is that lately PATENTED by Mr. HORSLEY, which, while it effects a considerable saving of time, fuel, wear and tear of machinery, tends greatly to DIMINISH, if not altogether to PREVENT, the POSSIBILITY OF EXPLOSIONS.—No destructive ammoniacal or other salt is introduced into the boiler.

As this Patent embraces a field of so extensive a character, applying equally to Water Companies and Manufacturers, it is the intention of the proprietors to FORM a COMPANY, so soon as a sufficient number of individuals can be got together.

For further particulars and prospectuses, apply to Mr. Horsley, Ryde, Isle of Wight; of Mr. Campin, Patent Office, 210, Strand; or the office of the *Mining Journal*, No. 26, Fleet-street, London.

CWMBRAIN PATENT IRON REFINERY.—The PROPRIETORS of IRON FORGES and MILLS are respectfully INVITED to MAKE TRIAL of Mr. BLEWITT'S REFINED IRON, or METAL, PREPARED by a NEW PATENT PROCESS, 11

whereby the IRON is completely FREED from the IMPURITIES CONTRACTED in the BLAST-FURNACE, and, by judicious mixtures, rendered applicable to every kind of manufacture. Heretofore, the metal usually sold in the market has been produced from the worst pigs, scraps, and refuse of some particular blast-furnace, or set of furnaces, without any mixture, or any regard to quality, or the purpose for which it might be required. The PATENT METAL is PREPARED ON SYSTEM, and TO ORDER, for any of the following purposes:—

1. For BOILER and TANK-PLATES.
2. For TIN-PLATES, commonly called COKE-PLATES.
3. For STRONG CABLE BOLTS, RIVET, and ANGLE IRON.
4. This COMPOUND PUDDLED, beat under the hammer into a bloom, reheated, and rolled into a 6 or 6½-inch bar, makes TOPS and BOTTOMS for FLANCH and OTHER RAILS, of very superior quality, and attended with less waste than any other kind of iron used for that purpose. It is also well adapted for nail-rods, horse-shoes, and for other ordinary uses of the blacksmith.

The PATENT METAL is marked with a squirrel, and the initials "R. J. B.," and is to be had only at the "Cwmbrain Iron-Works," near Newport, Monmouthshire

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PATENT TOUGHENED CAST-IRON.—Messrs. GARDEN and MACANDREW beg to call the attention of Architects, Builders, Engineers, Ironfounders, &c., to the ABOVE DESCRIPTION OF IRON (Mr. Morries Stirling's Patent), which, after numerous trials, experimental and practical, is found greatly to exceed all other cast-iron in tensile and transverse strength, as well as in resistance to crushing forces. Several of the most extensive ironmasters have been licensed, and from them, or their brokers, the patent iron can be procured. 12

Messrs. GARDEN & MACANDREW have always a STOCK of this IRON in PIGS, and are ready to EXECUTE ORDERS to ANY EXTENT, on the shortest notice.

27, Queen-street, Cheapside, April 25, 1849.

TO ENGINEERS AND BOILER MAKERS.—The BIRMINGHAM PATENT IRON TUBE COMPANY MANUFACTURE PATENT LAP-WELDED IRON TUBES (under Mr. R. Prosser's Patent) for Marine, Locomotive, and all Tubular Boilers. Also, TUBES for Gas, Steam and other purposes. All sorts of IRON GAS FITTINGS. 13

WORKS—Smethwick, near Birmingham.
LONDON WAREHOUSE—No. 6, Upper Thames-street.

THE STEAM-ENGINE.—W. BROTHERTON & CO. beg to CALL the ATTENTION of ALL PARTIES EMPLOYING STEAM-POWER to their PATENT PURIFIED OIL for the ECONOMICAL WORKING of the STEAM-ENGINE and other MACHINERY.

The adoption of its use effects a saving of 25 per cent. on the quantity required for lubrication over any other oil; and its properties are such as to greatly preserve the bearings of machinery in general. A trial will prove the fact. 14

W. BROTHERTON & CO.,

PATENT OIL FACTORY, HUNGERFORD WHARF, CHARING-CROSS, LONDON

FOR EVERY HOUSE IN THE KINGDOM.

PAPER TWELVETREES' GENUINE CONCENTRATED WASHING PREPARATION, for accomplishing a week's wash in 1½ hour[illegible] warranted not to injure the finest fabric.—Sold by all chemists and oilmen, in bo[illegible]6d., 1s., and 1s. 6d. The 1s. 6d. bottles contain sufficient for 48 gallons of water[illegible] will boil three lots of clothes, being equal to 144 gallons. 15

All the leading journals in the kingdom have spoken favourably of this invaluable process, now used in most of the infirmaries, asylums, public institutions, and families throughout the kingdom.

MANUFACTURED only by TWELVETREES, BROTHERS, Ink and Blacking Manufacturers, [illegible]-street, Bedford-row, London, wholesale and for exportation.

Two thousand more agents wanted.

Wholesale by Barclay and Sons, Sutton, Edwards, Hansey, &c.

No Chemical [illegible] potash preparations are introduced, which are notoriously injurious to linen.—[illegible]STORY—MILLMAN-STREET, BEDFORD-ROW, LONDON.

WANTED,—ARTICLED PUPIL.—Mr. C. S. RICHARDSON will take into his office a YOUNG MAN, for three years, as PUPIL; his course of studies will consist of House, Land, and Mining Surveying, Architectural and Engineering Drawing, in all its details, the Computation of Quantities, Valuation, Estimating, and the usual routine of the office.—Premium moderate.

Apply for terms at the office, No. 5, Whitefriars-street, Fleet-street. 16

WANTED,—A NEW or SECOND-HAND STEAM-ENGINE, from 50 to 70-inch cylinder, with or without boilers.—Tenders for supplying the same to be forwarded, on or before the 1st June next, to Mr. Paull, purser, Copper Bottom Mines, Camborne, Cornwall.—Dated May 23, 1849. 17

STEAM-ENGINE.—A PORTABLE or INDEPENDENT ENGINE, of 16-horse power, constructed on Boulton and Watt's low-pressure principle, having a stroke of 3 ft., a cylinder 22½ in. diameter, an air-pump 15½ in. diameter, a fly-wheel 15 feet diameter, and weighing about 54 cwts., is TO BE DISPOSED OF.—This engine was made by Peel, Williams, and Co., of Manchester, and erected last year for a temporary purpose.—Pre-paid letters on this subject, addressed to Messrs. Grant & Co., No. 12, Foster-lane, London, will receive immediate attention. 18

TO BE SOLD (CHEAP), a 40-horse HIGH-PRESSURE HORIZONTAL STEAM-ENGINE, quite new; cylinder 24 inches diameter, stroke 4 feet, mounted upon a strong metal box frame.—Apply to Mr. Matthew Smith, Sylvester Works, Sheffield, where the engine may be seen. 19

TO PUBLIC COMPANIES, &c.—WANTED, a SITUATION to go ABROAD, as SUPERINTENDENT of COAL and IRON MINES.—The Advertiser possesses a complete practical knowledge of mining, the erection of machinery, road-making, surveying, &c., having at present, and for several years, had the management of extensive mines. Every satisfaction will be given as to character and abilities.

Address, stating particulars, "E. P. Q." at the office of the *Mining Journal*, No. 26, Fleet-street, London. 20

TO IRONFOUNDERS AND ENGINEERS.—TO BE LET, OR SOLD, BY PRIVATE CONTRACT, the PHŒNIX FOUNDRY and FACTORY, at TIVIDALE, near DUDLEY, suitable for carrying on an extensive trade in the Railway or General Engineering Business. The whole is fitted up with every convenience for immediate occupation.

For particulars apply to Mr. G. Hickman, Wolverhampton-street, Dudley. 21

TO MINE AGENTS AND OTHERS.—WANTED TO PURCHASE, a QUANTITY of YELLOW OCHRE and UMBERS. Washed sample casks, containing not less than 1 cwt., delivered free to Mr. Lane, 80, Old Broad-street, London, with lowest price delivered in London and Liverpool. 22

FOR SALE,—SHARES in that promising TIN MINE, called RIX HILL (East Crowndale), now making considerable monthly returns.

Apply to Mr. William Birdsey, 9, St. Michael's-alley, Cornhill. 23

MINING PROPERTY.—Mr. JAMES HERRON, MINE AGENT, 33, CLEMENTS-LANE, LOMBARD-STREET, has received instructions to DISPOSE of SHARES in FIRST CLASS MINES, paying regular dividends, and yielding to the purchaser from 17½ to 25 per cent. upon his outlay. He is also in a position to transact business in the following—viz.; Imperial Brazilian, Copiapo, St. John del Rey, Bolanos, Altens, Royal Santiago, Australian, Holmbush, East Tamar, Treleighs, Devon Great Consols, East Wheal Rose, West Carndon, South Wh. Frances, Condurrow, East Pool, Lewis, and Bedford Mines. 24

MINING OFFICES, THREE KING'S COURT, LOMBARD STREET, LONDON.—Messrs. R. TREDINNICK & CO. beg to draw the attention of capitalists to the DEPRESSED MARKET VALUE of SHARES in ENGLISH and FOREIGN MINES, many of which pay dividends of from 20 to 30 per cent. per annum, whilst those on the eve of so doing are selling at corresponding low prices.—Messrs. T. & Co. continue to DEAL in every description of MINING, RAILWAY, BANKING, INSURANCE, CANAL, and OTHER SHARES.—Statistical information afforded gratuitously, upon personal application.—MONEY ADVANCED upon the above securities. 25

MINING OFFICES IN CORNWALL.—Messrs. JOHN T. TEAGUE and CO. beg to announce that they have OPENED OFFICES, at 4, KING-STREET, TRURO, for the purpose of CARRYING ON BUSINESS as MINE SHARE BROKERS; and in presenting themselves to the notice of the public, assure such as may favour them with support, that it is their determination both to withhold from speculating in mines themselves, and to transact business on commission only, to the rigid fulfilment of which they hereby pledge themselves.

Messrs. J. T. T. & Co. will be happy to afford every information as to the purchase or disposal of shares, and to forward their terms on application. 26

Truro, May 24, 1849.

MR. GEORGE BATE, JUN., CIVIL ENGINEER AND SURVEYOR, *WOLVERHAMPTON.* 27

Offices in Queen-street, corner of Piper's-row.

N.B.—UNDERGROUND MINING SURVEYS accurately executed.

JAMES LANE, MINING SHARE DEALER, 80, *OLD BROAD-STREET, LONDON.* 28

ASTURIAN MINING COMPANY.—Notice is hereby given, that all SHARES in ARREAR of the CALL due on the 1st day of March last, will be absolutely FORFEITED, unless paid upon, with interest, on or before the 1st day of June next. By order of the board, K. MACKENZIE, Sec. 29

Offices of the Company, 9, Austinfriars, May 18, 1849.

BANWEN IRON COMPANY.—Notice is hereby given, that an EXTRAORDINARY MEETING of the shareholders of this company will be HELD at their office, 23, Threadneedle-street, London, on Tuesday, the 29th day of May inst., at Two o'clock precisely. By order, S. P. HARRIS, Secretary. 30

23, Threadneedle-street, London, May 18, 1849.

ST. JOHN DEL REY MINING COMPANY.—The NINETEENTH ANNUAL GENERAL MEETING of the proprietors of the St. John del Rey Mining Company will be HELD at the company's office, 8, Tokenhouse-yard, on Friday, the 8th of June, at Two o'clock precisely. At this meeting one director—viz., J. D. Powles, Esq., will go out by rotation, but is eligible to be re-elected. 31

8, Tokenhouse-yard, May 26, 1849. (Signed) W. ROUTH, Secretary.

MENDIP HILLS MINES COMPANY.—At a Special General Meeting, held at the offices of the company, 44, Finsbury-square, on Tuesday, the 22d day of May, 1849, it was

Resolved,—That the reports and accounts now submitted be received, adopted, and entered in the company's cost and transfer books. 32

Resolved,—That the cordial thanks of this meeting be presented to the chairman, for his energetic and persevering industry in conducting the affairs of the company, and for his courtesy and attention in presiding over the business of the meeting.

OLD WHEAL PROSPER MINE.—Notice is hereby given, that, for the present, NO SHARES CAN BE ALLOTTED, in consequence of a few gentlemen in London being in treaty for the entire mine, who propose to enlarge the capital and carry out the workings on a more extensive scale. 33

C. S. RICHARDSON, Engineer.

GROWA SLATE COMPANY, TREVALGA, CORNWALL.

6000 parts, or shares, of £5 per part, or share (all paid), whereof 2300 parts, or shares, are offered to the public. 34

NOW IN WORK ON THE "COST-BOOK" PRINCIPLE.

The QUARRY is situated on the CLIFFS, within one mile of the port of Boscastle—vessels load at the quarry during three-fourths of the year.

The SLATE forms a remarkable exception to the general constitution of this mineral; and whilst its applicability to the several purposes of roofing, flooring, and the usual adaptations of the grey, blue, and other slates, a new series of utilities has been developed to the directors (by a gentleman who has, in consequence, been appointed superintending engineer to the company), which will extend its application in a variety of preparation to an extensive and completely novel character of uses.

A PATENT is in course of completion, for the purpose of securing to the shareholders in this undertaking the exclusive benefits to be derived from one of the most attractive discoveries of the present age.

Prospectuses, and all other information, may be obtained at the offices of the company 57, Threadneedle-street, where specimens of the slate may be seen; or to the solicitor, John Chapple, Esq., 70 A, Aldermanbury. Prospectuses can also be had at the office of the *Mining Journal*, 26, Fleet-street.

London, May 16, 1849.

THE PATENT OFFICE AND DESIGNS REGISTRY, *No. 210, STRAND, LONDON.* 35

INVENTORS will receive (gratis), on application, the OFFICIAL CIRCULAR OF INFORMATION, detailing the eligible course for PROTECTION of INVENTIONS and DESIGNS, with Reduced Scale of Fees.

Messrs. F. W. CAMPIN and CO. offer their services, and the benefit of many years experience, in SECURING PATENTS and REGISTRATIONS OF DESIGNS, with due regard to VALIDITY, economy, and dispatch—assisted by scientific men of repute.

Also, in MECHANICAL and ENGINEERING DRAWINGS, whether connected with Patents, Railways, or otherwise, by a staff of first-rate draftsmen.

Application personally, or by letter, to F. W. Campin and Co., No. 210, Strand (corner of Essex-street).

Transactions of Scientific Bodies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Royal Botanic—Inner Circle, Regent's Park	3½ P.M.
MONDAY	Geographical—3, Waterloo-place	8½ P.M.
	Medical—Bolt-court, Fleet-street	8 P.M.
WEDNESDAY	Society of Arts—Adelphi	8 P.M.
	Geological—Somerset-house	8½ P.M.
FRIDAY	Royal Institution—Albemarle-street	8½ P.M.
	Botanical—20, Bedford-street, Covent-garden	8 P.M.
SATURDAY	Asiatic—5, New Burlington-street	2 P.M.

INSTITUTION OF CIVIL ENGINEERS.

Mr. Field, the president of the institution, held his annual *conversazione* on Tuesday evening, May the 22d. This is the second time these meetings have been held at the house of the institution, and much as we had reason to be pleased with the general arrangements last year, we were, if possible, better satisfied on this occasion. The president was very well supported in doing the honours of the evening, by the vice-presidents and members of council, and was efficiently assisted by Mr. C. Manby, the secretary, whose general arrangements, and selection and distribution of the works of art and the models, claim the highest praise. The entertainment of the evening was not restricted to the intellectual faculties, for the refreshment rooms appeared to have been equally well attended to, and certainly attracted as much attention as the models. The visitors were most numerous, and at one time the rooms appeared filled to repletion; but the ventilation was so perfect, that the heat was not overpowering, and the profusion of flowers in every direction "wafted only sweet odours."

From such a large collection we can only particularise a few, and we must give the place of honour to the works of art. On the walls were the portraits of the celebrated engineers, Locke, Brunel, Fairbairn, and Mr. Isambard Brunel, by Grant, Hornby and Patten. Around the walls, and on the tables, were beautiful specimens from the pencils of Etty, Haghe, Lee, Fahey, Scanlan, Pitt, Wood, Boxall, Richmond, Jutsum, Forrester, and many others.

Mr. Thomas contributed a beautiful marble chimney-piece, intended for Mr. Peto, and a statuette of Ariel commanding the Storm. Mr. Behnes also sent an excellent bust of Mr. C. Barry. Mr. Deighton's model of the Kneller Hall Training School was an excellent specimen of Mr. Mair's architectural skill and taste. Among the principal of Salter's models were, Mr. Fowler's New Holland Pier, and his Girder Bridge over the Trent; Mr. Jee's Dintivy Vale Viaduct; Captain Moorsom's Viaduct on the Waterford Railway; Mr. G. Edwards's Bridge over the Waveney; Mr. Grainger's Bridge over the Calder; Mr. Stephenson's Tubular Bridge over the Menai Straits; and of the Bishop's Rock Pile Light-House, erecting in a most perilous position, by Messrs. Walten and Burges. Cochrane's Sawing Machine excited great attention; as did Gordon's Cata-Dioptric arrangement, and Wilkins's Fourth Order Dioptric Light Apparatus.

The Earl of Rosse contributed the model of his beautiful Telescope, as did Mr. Cowper those of his own, Mr. Lassels', and Mr. Nasmyth's methods of mounting Equatorial instruments.

The Electric Telegraph Company had a fine collection of working instruments, and Messrs. Brett and Little contributed a series of theirs.

Mr. Strode's self-igniting gas-burner, and Mr. Biddell's self-regulating gas-burner, were both much admired.

Messrs. Adams exhibited a complete series of improvements in railway carriages, permanent way, &c.; and Messrs. Johnson and Cammell an equally complete assortment of steel springs, files, &c.

Mr. Roberts had a beautiful collection of models and working instruments, exhibiting his usual talent of invention and beauty of execution.

Messrs. Mitchell had a series of models of the various applications and mode of using the screw-pile and mooring. Very complete models were also shown, by Mr. Woods, of Clement's sugar-refinery, and of a rotative dynamometer.

Messrs. James Wall and Co. sent two curious models of an engine with an oscillating cylinder, made by Murdock, in 1785, and of a locomotive engine, by the same ingenious man, prior to 1784.

Messrs. Ransome and May exhibited some shavings of cast-iron, cut by tools of immense power, from railway wheels.

Messrs. Mandslay sent a model of a large gun, intended to be loaded and sponged by the breech; and a method of feathering paddles.

Messrs. Seaward and Co. contributed a series of models of plans for raising stern propellers; and Messrs. Chubb also sent a beautiful specimen of an iron chest, very superior in workmanship and design.

The examination of all these, and many other interesting objects which our space will not allow us to mention, afforded ample amusement to the guests; and it was not until an early hour of the morning that the last had departed, highly gratified with the President's hospitable reception.

Among the guests we noticed—His Excellency the Turkish Ambassador and suite; Earl Lovelace; Lord Lincoln; Bishop of Norwich; Dean of Westminster; Rev. Dr. Major; Rev. Mr. Repton; Admiral Hafiz Bey, and officers of the Egyptian frigate now in the Thames; Vice-Admiral Sir Charles Malcolm; Lieut.-Gen. Sir Howard Douglas; Major-General Sir Charles Pasley; Colonels Jones, Irvine, Wylde, Sykes, Colquohon; Captains Smith, Huish, Griffiths, Madden, Nelson, Henderson, Farquharson, Probyn, Sir E. Belcher, O'Gore, Spilly, Bethune, Moorsom, Rowland, Gosling, Sir George Back, Grissell; Barons Rothschild, Heintz, Goldsmid; Sirs James Clark, George Clark, Delaviche, John Rennie, Jephson Norrys, George Ross, William Ross, Henry Ellis, Charles Fellowes; Drs. King, Billing, Locock, Thurnham, Quinn, Jones, Parris: Professors Forbes, Wheatstone, Donaldson, De la Rive, Marcet, Hall; Aldermen Carden, Moon, Salomans; Messrs. Thorneycroft, Fowler, W. Cubitt, J. Cubitt, Brunel, Rendel, Sang, May, W. Simpson, G. Bidder, Dennys, Loaden, Webster, Mandslay, Amory, Brockedon, Mark Lemon, Forrester, Boxall, Deighton, Peto, M.P., Defries, Babbage, Forrest, Lefroy, Gowen, Behnes, H. C. Johnson, Hood, Leslie, Gregory, Fox, Bauguiet, T. Landseer, Hebeler, Prevost, C. Landseer, Fairbairn, Claudet, &c., &c.

ROYAL INSTITUTION.

The third lecture by Mr. Faraday on Static Electricity, delivered on Saturday, was principally devoted to the consideration of the transference of electricity from one body to another. He introduced the subject, however, with some further examples of the existence of two kinds of electricity, observing that the chief characteristic of electrical force is its duality: and that no power is manifested until the two kinds of electricity are separated. In illustration of this fact, a rod of shellac, to which a flannel cap was fitted, was excited by twisting it round a few times; but no manifestation of the presence of electricity was afforded by the most sensitive electrometer until the flannel was separated from the shellac; when each exhibited strong evidence of being highly excited, and with electricity of opposite kinds. The properties which some bodies possess of conducting electricity much more readily than others is so important, that were it not for the imperfect manner in which some substances conduct, no such power as electricity would be known; for as soon as it was excited it would be conducted away. The difference between electrics and non-electrics seems to depend on their differing conducting powers; for a rod of brass, which exhibits no electrical property whatever, when held on the hand and rubbed becomes highly electrical when mounted on shellac, which, being a bad conductor, prevents the electricity from passing off to the earth, as it does when the brass is held in the hand.

Mr. Faraday observed that there are no absolute non-conductors of electricity, for all bodies conduct, though the degrees of their conducting power are almost infinitely varied. Even the metals vary very materially in their conducting powers, and in this respect there is some analogy between the conduction of heat and the conduction of electricity. Two similar rods, one of iron the other of copper, were heated by the application of a spirit lamp to one of their ends, and a number of balls were stuck to the rods with cerate at different distances, so that as each rod became heated the cerate melted, and the balls fell in succession. The rod of copper conducted the heat so much quicker than the iron that all the balls from it had fallen off when half of those on the iron remained. Several experiments were performed for the purpose of illustrating the differing degrees of conductibility of different substances, and to show that a bad conductor may, by increase of quantity, draw off as much electricity as a good conductor when of small size. When a thin lath was reared against the prime conductor of the electrical machine, so as to communicate with the earth, but a small portion of the electricity was drawn off by it, as was shown by the length of the spark; but when a thicker piece of wood was substituted the length of the spark was greatly diminished. The superior conducting power of water, compared with silk was shown by connecting two insulated pieces of metal with a silk string, under which circumstances no appreciable amount of electricity was transferred from one to the other; but when the string was wetted with water the electricity passed freely. The best of conductors, however, offer considerable resistance to the passage of electricity; and in discharging a Leyden jar through about 40 feet of thin copper wire, it was shown that the electricity preferred passage through a small space of air, though a non-conductor, to traversing the whole length of the wire. The effect of carpets in obstructing the passage of electricity was shown in a curious manner. Mr. Faraday, when standing on a carpet and being in connection with the prime conductor of the electrical machine, set fire to a jet of gas by bringing his finger near it, the carpet acting in that case in the same manner as an insulating stool. A facile mode of constructing an insulating stool of the most effective kind was shown, for the advantage of those who have no regular apparatus. Four glass tumblers inverted, with a piece of gutta percha on each, and with a quarto volume for a top, serve all the purposes of an insulated stool; and, as gutta percha is a very bad conductor, such a stand is a more effective insulator than an ordinary glass stool. The transference of electricity by convection is distinct (Mr. Faraday remarked) from the ordinary conduction of electricity, as in the former case the electricity is transferred by being carried from one body to another. Several instances of this kind of transference of the power was shown, the emission of electricity from points being the most curious. When a metal point is attached to the prime conductor, scarcely any signs of electricity can be be obtained from it, as the point carries it off. A visible representation of this mode of transference was afforded by putting melted sealing wax on a metal point, when the convective force carried the wax against a sheet of paper in the most delicately minute fibres, finer than those of a spider's web. In the next lecture, it was announced, the phenomena of induction will be considered.

On the 14th inst., as James Moore, of Armathwaite, was breaking stones, he found on splitting a large piece of rock that it contained several pieces of fine gold. These stones were taken from the blue rock, commonly called the "Back Bone of the Earth," near to Armathwaite Bay, and are the property of the Earl of Lonsdale.—*Carlisle Patriot.*

Proceedings of Public Companies.

MEETINGS DURING THE ENSUING WEEK.

THIS DAY	Great Britain Mutual Life Assurance Company—offices, at One for Two.
TUESDAY	Banwen Iron Company—offices, at Two.
WEDNESDAY	Guadalcanal Silver Mining Association—offices, at One. Pembrokeshire Iron and Coal Company—offices, at half-past One. Solicitors' and General Life Assurance Co.—Gray's Inn Coffee-house, One. Rock Life Assurance Company—London Tavern, at Twelve. Hungerford Market Company—offices, at One.
THURSDAY	General Mining Association—offices, at One. Craig Ddu Slate Company—offices, at One. New Zealand Company—offices, at One. Royal Naval, Military, and East India Company Life Assurance Society—offices, at One.

[*The meetings of Mining Companies are inserted among the Mining Intelligence.*]

IONIAN BANK.

The eighth annual general meeting of this company was held at the office, Great Winchester-street, City, on Thursday, the 24th inst.

CHARLES HANCOCK, Esq., in the chair.

Mr. KETTLEWELL (the secretary) read the following report of the directors:

The directors of the Ionian Bank, although, from accidental circumstances, unable to exhibit to their proprietors a result of the last year's operations equally satisfactory with those of the two preceding years, have yet cause for sincere congratulation on the state and prospects of the establishment. It will be recollected that, in the report presented at the last annual meeting, allusion was made to the critical state of the times, and the necessity for increased vigilance and caution thereby occasioned. In fact, at that very period, a few disaffected persons, availing themselves of the contagious excitement then prevailing throughout Europe, had caused a severe run on one of the principal branches of the bank, and there was reason to apprehend that the same evil influence might extend to the other islands, and lead to similar consequences. The directors felt it to be their duty, in meeting this exigency, to leave nothing to chance. They had the most gratifying evidences of the energy of the inspector, managers, and local directors, and of the zealous co-operation and assistance of the merchants and proprietors, who felt and acknowledged the deep interest which they had in the maintenance and welfare of the bank; but fearing that these efforts might prove inadequate without aid from this side, they determined on immediately remitting, at whatever cost, an amount of specie sufficient to meet any contingency; this policy has been well justified by the event. The firmness with which the bank met the attack, and the ample means at its command, paralysed the evil designing and re-assured the timid, and the consequence has been, that the credit of the establishment has been placed on an even surer basis than before, and its notes and engagements are now accepted with unhesitating confidence. These results, however, as might be expected, have not been obtained without a sacrifice. The operation of remitting a large amount of specie, and of re-adjusting the balance by its return and replacement, at a time when from other causes of monetary derangement exchanges were unfavourable, could not be conducted without some, and not inconsiderable, loss. This, with other circumstances of a like nature, arising from the unsatisfactory state of Europe generally during the past year of commotion and disquiet, has absorbed much of that surplus which would otherwise, as in former years, have been carried to the reserve fund; still, as before intimated, the directors have matter for congratulation.

The bank, during a period of severe trial, has not only stood its ground, but advanced its position. Neither the amount nor the profit of its general business has been affected; and, after meeting the extra charge which was thrown upon it by the accidental events of the year, writing off all bad debts, and paying the usual dividend of 6 per cent., there remains a surplus of about 400*l.* to be carried to the credit of profit and loss upon the transactions of the year. The directors have also the gratification of stating that, in other respects, they have good and well ascertained grounds of confidence. Availing themselves of the opportunity afforded by a visit of one of their body (Mr. Hunter) to Trieste, they commissioned that gentleman (who, from his long residence in the islands, and the great attention which he has always paid to the well-being of the establishment, was peculiarly qualified for the task) to institute a close examination and scrutiny into the condition, management, and efficiency of each of the branches and principal agencies. This commission was executed with the most careful accuracy. In conjunction with the inspector, Mr. Hunter visited each department, and satisfied himself, by personal inquiry and inspection, that the business of the bank was conducted by the several managers, agents, and members of the local boards, with conscientious care and diligence, that its capital was unimpaired, its securities (all of which were rigidly examined) good, and its condition generally sound and healthy.

The directors, whilst they feel themselves justified by the facts above-stated in reiterating their own conviction of the stability of the bank, knowing, at the same time, that "a wise mistrust is the parent of security," beg to renew their assurance that there shall be no relaxation of vigilant efforts on their part, to ensure a continuance of that prosperity which it has so frequently been their pleasing duty to record. Under all the circumstances, they venture to hope that the following summary of the year's accounts will be accepted as satisfactory:—

Balance at the credit of profit and loss on the 1st Jan. 1848		£12,057	13 6
To which is to be added the net profit for the year ending 31st Dec., 1848, after deducting charges and bad debts		9,490	4 9
Making together		£21,457	18 3
From which is to be deducted the amount of two half-yearly dividends, at the rate of 6 per cent. per annum, paid in 1848		8,985	0 0
Leaving at the credit of profit and loss on the 1st of Jan., 1849		£12,472	18 3

The report was adopted unanimously.—The two retiring directors, Oliver Farrer, Esq., and J. H. Lloyd, Esq., were re-elected unanimously.

Mr. MERCIER said, he would now move that the best thanks of the proprietors be given to the directors, for their able conduct in the management of the bank, as exemplified in the report they had furnished to this meeting.

Mr. MARSHALL seconded the motion, which was passed unanimously.

The CHAIRMAN returned thanks. He had no fear but that the bank would go on prosperously, and that the present dividend would be continued. They had an actual circulation in notes at present of 70,000*l.* Although the bank had hitherto had many transactions with the Government, yet he had no doubt that the recent appointment of a gentleman of business habits like Mr. Ward, would tend further to promote a beneficial intercourse between the bank and the Government. The directors had endeavoured to employ their deposit balances advantageously, and though they had not the advantage of Exchequer Bills or other temporary investments there, he was happy to say, that means were found to turn them to good account. (Hear, hear.)

In reply to a proprietor, who asked if any rival establishment existed,

The CHAIRMAN said that this bank had an exclusive charter, which had several years to run, and that the limited extent of the country would not admit of a rivalry of similar establishments.

A PROPRIETOR asked how many establishments they had?

Mr. LLOYD, a director, said they had branches in three provincial islands, and agencies in the remainder.

Mr. MERCIER asked what interest was allowed on deposits?

The CHAIRMAN replied 4 per cent. on permanent deposits. The deposit account was now much larger than it was formerly, and had been gradually increasing. (Hear, hear.)

Hereupon Mr. HUNTER, a director, observed, that 10 per cent. was the legal rate and interest in the country; and it was further stated that bills were discounted at 8, 9, and 10 per cent. per annum.

The CHAIRMAN said, their friend, Mr. Hunter, who had just returned from the country, had seen a great deal of the practical working of their bank, and the manner in which all the details of the concern were managed, of which he much approved, as was mentioned in the report. (Hear, hear.) On the occasion of the late run on the bank in Cephalonia, the president (who is representative of the Lord High Commissioner), as well as the gentry and merchants, afforded very efficient support, by sending in specie, instead of demanding cash for their notes. (Applause.)

A vote of thanks having been moved and seconded to the chairman, for his courtesy in the chair, and agreed to unanimously, the meeting adjourned.

NATIONAL BANK OF IRELAND.

The annual general meeting of this company took place at the bank, Old Broad-street, on Wednesday, the 23d inst.

T. LAMIE MURRAY, Esq., in the chair.

Mr. KING (the secretary) read the following report:—

The directors have the satisfaction of placing before the proprietors the usual statement of accounts for the past year. In so doing they deem it useful to direct attention to a few of the leading circumstances which have influenced the progress of the establishment during that period, and which have induced the directors to exercise extreme caution in the employment of the resources of the bank. The crops were for the most part under the usual average, the potatoes were again seriously affected, while the prices of produce including those of cattle and other live stock, had fallen below those realised in years of much greater abundance. The pecuniary pressure caused by these circumstances on all classes has been one of unusual severity. Contemporary with this state of things as regards the agricultural resources of Ireland, commerce and credit have been seriously affected, owing to the disturbances and consequent excitement which prevailed during a part of last year, unsettling public confidence, and interfering injuriously with the usual operations of trade. Under these difficulties and disadvantages, it is not to be expected that large profits could be realised from prudent banking operations. The directors are, however, gratified in being enabled to state that, after paying the usual half-yearly dividends, amounting to 22,500*l.*, and writing off all ascertained bad debts, there will remain a surplus of 3990*l.* 12s. 10d. to be carried to the credit of the profit and loss account for the year 1849—viz.:—

The undivided profits at Dec., 1847, were	£61,165	4	4
Net profits for the year ending Dec., 1848	26,490	12	10—£87,655 17 2
Deduct half-year's dividend to Midsummer, 1848	£11,250	0	0
Ditto to Christmas, 1848	11,250	0	0
Bonus of 10s. per share on 20,000 shares	10,000	0	0
Amount paid T. Lamie Murray, Esq., according to the provisions of the Deed of Settlement	1,000	0	0
Balance of profit and loss carried to that account for 1849	3,990	12	10—£37,490 12 10
Leaving amount of undivided profits to the credit of reserve fund 31st December, 1848			£50,165 4 4

Since the last annual general meeting the court of directors has appointed Anthony O'Flaherty, Esq., M.P., as a director to fill a vacancy in the direction occasioned by the retirement of Charles Bianconi, Esq., and which appointment will require the confirmation of this meeting.—Since the last annual general meeting a vacancy has occurred in the direction by the retirement of F. C. Brown, Esq., who, had he continued in office to the present time, would have gone out of office by rotation at the meeting; the vacancy thus occasioned, it has not been deemed expedient to fill up.

There are now to be elected four directors—viz.: one director in the room of F. C. Brown, Esq., and three directors in the room of John Joseph Keene, Esq., Christopher Fitzsimon, Esq., and Colonel the Hon. Leicester Stanhope, who retire by rotation, all of whom are candidates for the office, and eligible to be re-elected.—Rowland Ronald, Esq., having signified his intention of becoming a candidate for the office of director, his name is submitted to you accordingly.

The Rev. Mr. MADGE asked a question in relation to the reserve fund.

The CHAIRMAN replied, that the 3990*l.* of surplus profits would be carried to this year's profit and loss account, so that the reserve fund would remain the same as last year.

Some other questions having been replied to,

The CHAIRMAN alluded to the disturbing causes which had retarded all banking operations in the past year, not only in England, but, he might say, throughout the whole continent of Europe. Ireland itself was not free from those political commotions—the madness of which caused them soon to be put down, but not before much injury had been done to credit, and all banking operations interrupted. In respect to the failure of the crops, if we only added those of previous years in succession, it must be seen what a dreadful effect these failures must have had on the social condition of that country. To this circumstance might be added the measures of the Government in respect to free trade, and the abolition of the corn law, which latter had a serious effect in reducing the value of the produce of Ireland. The circle of this bank's operations was placed in entirely agricultural districts, where there were no local manufactures to sustain the people, who, consequently became dependent upon their produce and the value it realised in the market. (Hear, hear.) These causes had also seriously affected all other establishments similar to their own, in addition to which were the effects of the poor rates, which reached every holder of property, and caused so much depreciation in its value, that land in Ireland which some years ago would have fetched 25 years' purchase, could now with difficulty be sold for 15 years' purchase. (Hear.) During this untoward state of things, the directors had acted on the information which they had received from their managers and inspectors in Ireland, and the experience they had acquired themselves in the art of banking, which led them to be very careful in advancing capital under the circumstances in which that country was placed. The directors rather preferred to keep their capital and reserve fund intact, than make large apparent profits, or run a risk of making serious losses. (Hear.) He was happy to say, that the way in which this bank had been carried on by the directors had been fully concurred in by the local directors in Ireland. (Hear.) If there were any merit due to the present board, it was that they had foreseen and taken care in the management of the bank that its capital should not be lost, or its dividend made less, which could now be seen by the state of the accounts, where, after writing off ascertained bad debts, and paying the usual dividend, they had a considerable surplus profit for the next year. (Applause.) The arrangement with the London and Dublin Bank now put them in possession of six additional branches in the best parts of Ireland. In respect to the subject of the savings' banks, it must not be supposed that this bank had taken it up; the mismanagement on the part of several of these banks becoming known to the public, induced the nobility, clergy, and gentry to apply to them, to know if the National Bank of Ireland would become a bank of deposit for small savings. This course had been adopted at a trifling expense to the bank, and would, no doubt, be a source of profit also eventually. As to the future prospects of the bank, he certainly did not consider they could be worse than they had been, during which time they had still maintained the dividend and put by a reserve; but he hoped an improved state of things would arise, in which the bank must, of course, from the increased range of its operations, largely participate. In conclusion, the chairman moved that the report be adopted, printed, and circulated amongst the proprietors.

A PROPRIETOR seconded the motion, which was passed unanimously.

The directors whose names are mentioned in the report were then re-elected unanimously.

Sir B. MACNAMARA moved a vote of thanks to the chairman and directors, Dr. MAGEE seconded it.—The resolution was passed unanimously.

A vote of thanks was also passed to the secretary, and agreed to unanimously.

EMANCIPATION OF ENTHRALLED IRISH ESTATES.—Mr. Thomas Mulock, whom we have so often, and with much pleasure, numbered among our correspondents, has propounded a plan for the disencumberment and sale of all the estates in Ireland, where entailed annuities, unpaid taxes, and heavy mortgages, have eaten up all the income, and render them worse than useless to their proprietors. After exposing the absurdity of Sir Robert Peel's plan, in which he makes the commissioners first buyers and then sellers of land on the behalf of the State, he shows that his statements, as to the insolvent condition of vast numbers of landed proprietors, are too true. Long and mischievous mismanagement had engendered a state of almost hopeless embarrassment, which, by the crowning calamity of the potato failure, is converted into a state of absolute remediless ruin. Lands, capable of agricultural improvement to an immense extent of foodful production, are rapidly withering into desolation—being not only unprofitable, but, in many instances, overwhelmingly oppressive, to the nominal owners, who, in addition to the old obligations, are liable to fresh imposts, rendered necessary by the frightful destitution of the unemployed peasantry. To complete the chronicles of despair, these doomed lands are so locked up as to exclude all expectation of a beneficial change of proprietorship. The plan Mr. Mulock proposes is the legislative authorisation of a supreme court, to be a land enfranchisement commission, for the final adjudication of all cases of encumbered estates in Ireland. He would first rescue those cases over which the Court of Chancery has appointed receivers, and which have not even a semblance of ownership; next, those whose owners are in an absolute state of insolvency, and in which cases all the elements of equitable adjustment would be embodied in ample inquiry, declared insolvency, announced sale, market purchase, discharge of debts and unimpeachable title, as the commission would be empowered to grant that in all cases good against every opponent. After the publication of Mr. Mulock's ideas, singularly enough, the Solicitor-General propounded his scheme in Parliament, and which turns out to be nearly similar in all its details. It is, however, of little consequence who is the original author of these views. We have no doubt that, if carried out, they would prove a salutary relief to the vast amount of locked-up property in Ireland, and, by bringing it into industrial activity, give employment and comparative comfort to thousands.

SELF-LIGHTING GAS-BURNER.—Among the inventions exhibited at the *conversazione* at the Institution of Civil Engineers, on Tuesday evening (referred to in another column), was a self-igniting gas-burner, by Mr. Strode, of St. Martin's-le-Grand. This is an adaptation of the zinc hydrogen, or Dobriener's light, to the purpose of lighting a jet, or other burner, of coal-gas. In this case, however, the hydrogen gas is generated in an improved manner by the galvanic action of a small battery of amalgamated zinc and platinised silver plates, immersed in sulphuric acid, diluted largely with water. The hydrogen gas so generated, is directed through a fine jet on a ball of spongy platinum, and, when ignited, moved across the coal-gas burner. The two cocks are ingeniously connected by means of a brequet movement; and an instantaneous light is thus produced by one movement of the hand. The effect is magical, and pretty in the extreme; and the apparatus, which is small and portable, is a very becoming burner for the office desk or library table, where we have no doubt it will be extensively used and appreciated, as soon as Mr. Strode shall have announced it as ready for general sale. So far it has only been used privately in the way of experiment; but several months' constant use have served to prove its perfect uniformity of action. The safety it affords, by the avoidance of the use of lucifer matches, is a consideration which will weigh with the prudent; and the ease with which it is lighted and extinguished, will be very valuable, if only in the avoidance of unnecessary heat. For chambers, bedrooms, offices, and libraries, in private houses, and for the hall table at night, it is perfect, and, above all, safe. It is also easily connected to the ordinary gas branches by a union connection fitting the common burner screw, and a flexible or other tube.

THE IRON STEAM-FRIGATE "MEGÆRA."—This frigate, built by Messrs. Wm. Fairbairn and Sons, for her Majesty's service, and launched from their yard, at Millwall, on Tuesday last, is of the following dimensions:—Length between perpendiculars, 207 ft.; breadth of beam, 37 ft. 8 in.; depth of hold, 24 ft. 3 in.; tonnage, 1891 31-94. She is constructed to carry—Two guns on the spar-deck, 56 pounders, 85 cwts.; four guns, 68 pounders, 65 cwts.; four guns 32 pounders, 25 cwts.; four guns on main-deck, 32 pounders, 56 cwts. The keel and stern post of the *Megæra* are of wrought-iron, 8½ in. wide, and of proportional thickness; the frames consist of angle-iron, 5 inches by 3 inches, placed 12 inches apart, in the way of the engine-room, and increasing in distance fore and aft to 18 inches. The floors are 14 inches deep, by 7-16ths of an inch thick, and the sheathing-plates vary from 11-16ths to ½ an inch in thickness, according to their position. The engines of the *Megæra* have been constructed by Messrs. Rennie. She is to be propelled by a screw upwards of 13 feet in diameter, provision having been made for disconnecting, and also for shipping and unshipping the same, at pleasure.

Railways and Shareholders; with Glances at Railway Transactions, Shareholders' Powers, Accounts and Audits, Railway Meetings, Defective Legislation, &c. By an EDINBRO' REVIEWER. London: P. Richardson, Cornhill.

This is an exposure of the numerous nefarious means which have been taken advantage of to convert the establishment of railways from what they ought to have been—a vast public benefit—into a scheme for individual and family aggrandisement. The author shows how the pollution of railway gambling in 1845 infected alike the peer and the peeress—the officials in every department of the State, and every grade of society; and to such an extent as to leave no hope of an early eradication of its fatal influences, social and commercial. In directing attention to the secret history of railway companies, directors' profits, allotment of shares, reserve and sale of shares, loans by one set of directors to themselves as directors of other companies, and all the other intricacies and trickeries which have been practised, the author produces correct histories of cases in point, and points out the various clauses in the several Acts of Parliament which have been violated, and which the shareholders have at command for enforcing proper management on the part of their directors.

ANOTHER "GOLD FIELD" DISCOVERED.

Papers have been received from Melbourne, Port Philip, to the 8th February, and contain some curious though vague accounts of alleged gold discoveries in the neighbourhood of the Pyrenees district. The party said to be in sole possession of the secret was a shepherd lad, who had refused to divulge the exact spot where the auriferous deposit was concentrated, but he had so far given colour to his statements by having disposed of specimens of the ore to individuals who had brought them into Melbourne. Two persons (Messrs. Bretani and Duchêne) are actually named as the fortunate purchasers of "lumps" which separately weighed 22 and 24 ounces each, and this circumstance is alluded to by more than one respectable journal. So great was the excitement occasioned by the various reports in circulation, that it was feared a mania would set in, and that attention would be diverted from ordinary agricultural pursuits "which, after all, (it is remarked) are likely to prove the true wealth and resources of the settlement." Exploring parties had been formed with the view of proceeding to the "run" where the shepherd was presumed to have made his discovery, and as the prospect existed of farm labourers deserting their masters, and mixing in the general rush of adventurers who were preparing to leave town, it was hoped the Government authorities would interfere and prescribe regulations for arresting any precipitate abandonment of such engagements. It was also asserted that, in further mineral researches, prompted by this movement, lead had been found in another district in considerable quantities. As furnishing a graphic illustration of the position of affairs in Melbourne since the reported gold discoveries, the annexed extract of a private letter, dated the 5th of February, may be quoted:—"The good people of Port Philip have all gone demented on the subject of gold seeking. First, an account was started of gold mines in California, where it could be dug like sand upon the sea-shore—whereupon four or five vessels departed, crowded with passengers, from Sydney, and a like number from Hobart Town. Meetings for a similar purpose were held at Melbourne, and plans were being matured for emigration to California, when the tide was turned (and men's heads along with it) by the reported discovery of gold nearer home (at the Pyrenees, 120 miles to the westward). All sorts of stories are afloat; but one thing is certain, that gold ore, in large masses, has found its way into Melbourne. There are many reasons for doubting the reports, and as many for believing them; at any rate, the town has gone mad; tradesmen, publicans, and sinners, have shut up their places of business and gone to seek for gold. Carts, horses, spades, picks, and hammers are all put in requisition, and Melbourne is gone out of town. It is impossible to give any idea, upon paper, of the ferment this gold mania is making."

The advices from Perth, Western Australia, detail at some length the particulars of the district visited by the governor, where he narrowly escaped a dangerous encounter with the natives. It is described as a well-watered and fertile spot, favourable for pasturage, &c. In this colony mineral research would also appear to have been well rewarded, if we may credit the statement, "that a fine silver mine, the lode two feet in width, had been investigated by Mr. Vigors and Lieutenant Helpman."

Accounts from Port Adelaide, South Australia, to the 24th January, state that though there had been an unprecedented influx of labour, still the market had not been perceptibly affected, and the rates of wages continued unchanged, as well as the scales of hire for harvest work. A maritime assurance office was about to be established for underwriting, upon the principle adopted at Lloyd's. Three rival companies had been projected for the formation of a line of railway between the city and the port, a distance of 7½ miles. The capital estimated to be required for the purpose varied from 45,000*l.* to 50,000*l.* The value of Burra Burra mining shares was firm, at 150*l.*

The intelligence from California, during the past week, presents no new feature. People continue to wend their way to the new El Dorado by thousands and tens of thousands. At Independence, Missouri, there were 5000 encamped, waiting for milder weather to start the grass on the prairies, and the numbers were daily augmenting. Many had returned from the Rio Grande, their companions having died of cholera, and many desire to return from the Isthmus of Panama, where death is also busy, especially with those who have no means to proceed further. In Texas, too, the cholera has been very fatal, while at New Orleans the deaths average nearly 200 per week. The pestilence is fast travelling up the rivers, and the victims of cholera at St. Louis were last week 46. Apprehensions are entertained that the mortality will be great throughout the country soon after the commencement of the hot season.

Advices from Labuan to the 30th of March have been received. The colony was perfectly healthy, but no new settlers had arrived, nor was there as yet much additional traffic with the natives. Hitherto roadmaking and ditching had been the chief occupations. The cargo of coal lately shipped to Singapore had been sold at the highest market rate, although the stock of English coal at that port was at the time heavy. From Sarawak accounts had been received of rather large quantities of gold having been lately found in the interior.

MINING ENTERPRISE IN IRELAND.

A petition has just been presented to the Irish Court of Chancery, on behalf of Messrs. Brown and Gillan (English gentlemen), praying for a lease of an extensive coal property, amounting to upwards of 12,000 acres, situated at Ballycastle, on the north-east coast of Antrim. These parties had, it appeared, purchased for a considerable sum the interest of Mr. Salmon in a lease of the above property, which he had obtained from the committee of Mr. Bond, a lunatic, under the authority of this court, for a term of 31 years, and of which about 10 had expired. That term was the longest which, under the then existing law, the committee of lunatics and the guardians of incapacitated persons could grant to lessees; but a recent Act (11th Vic., cap. 13) extended the leasing powers to 41 years. The petitioners having obtained a lease from the Earl of Antrim of the iron-stone, and all minerals on the same property for a term of 65 years, and being the owners of large mineral properties in the north of Antrim, applied to the court for leave to surrender the present lease, under assignment from Mr. Salmon, and to have a new lease granted to them for the full term of 41 years. On a reference to the master, he decided in favour of the application, and fixed the rent of the property as 300*l.* over and above one-twelfth of royalty rent upon all the coal raised to bank, and which was payable to the Earl of Antrim. Exceptions were taken to the master's report by the heir-at-law of the lunatic, and the heirs expectant in remainder, on the ground that the rent was inadequate for so large and valuable a mineral property, and that the lunatic and the remaindermen after his death, should participate in a royalty rent. The matter was argued on the 30th April, before his lordship, who postponed his decision until the several parties brought all the facts as to the value and productiveness of the property in affidavits before the court.

Several affidavits were read. Those put in by the petitioners, from mining engineers and others, stated that the fixed rent and royalty were relatively higher, taking into account the large capital that would be required to be expended before the coal-field could be worked, than those demanded in England. There was an affidavit by Mr. Griffiths, the well-known geologist in Dublin, agreeing in the main with the statement of the petitioners; and one from a mining engineer in Glasgow, who estimated the probable sales (of the coal of the quality which he saw at Ballycastle) at 100,000 tons, the return from which would be 24,000*l.* per annum, and the royalty dues about 3,000*l.* He stated his opinion that the fixed or certain rent should be 800*l.* per annum; and the royalty rent payable by the lessees one-eighth, being one-fourth more than that paid to Lord Antrim.

The LORD CHANCELLOR considered that the fairest course to pursue towards all the parties now before the court would be to refer back the case to the master, with instructions to fix such a rent, and such a participation in the royalty rent to the lunatic, as, in his opinion, was just. The present rent might be too high, and the claim to a participation in the royalty rent might not be warranted by the position and prospects of the property; or the claim might be modified in such a manner as not to press injuriously upon the petitioners. All these matters had not been fully considered by the master, who had taken as his guide the rent (250*l.*) paid by Salmon. The case being one of urgency, the master was requested forthwith to proceed with the investigation, and, pending the same, the petitioners were allowed to go on with the borings and other preliminary explorations of the property, under the superintendence of the receiver of the lunatic's estate.

THE PENDLETON COLLIERY—BANKRUPTCY OF MR. FITZGERALD.—In the Bankruptcy Court, on the 23d inst, this bankrupt came up on his adjourned last examination; he was described as of 39, Portland place, of Boulge Hall, Woodbridge; of Naseby, North Hampshire; of Little Island, Waterford; of Castle Irwell, Manchester; and coalowner of Pendleton, Lancashire. It was alleged that his bankruptcy arose from unsuccessful speculations, and experiments to a vast extent in mines and collieries, and his balance-sheet contained these somewhat startling items:—Creditors without security, 144,000*l.* 18s. 5d.; ditto holding security, 140,010*l.* 3s. 6d.; derived from rents, dividends, &c., 70,565*l.* 6s. 3d.; a liability, 200*l.*—making a total of 354,976*l.* 8s. 2d. Thus accounted for—deficiency July 1, 1843, 91,962*l.* 12s.; debts, 2890*l.* 11s. 3d.; Pendleton Colliery capital, 134,528*l.* 11s. 7d.; property, 8265*l.* 10s. 1d.; ditto held by creditors, 24,350*l.*; iron, 4200*l.*; expenses, 73,297*l.* 19s. 9d.; interest and allowance to four children, 15,286*l.* 3s. 6d.; liability, 200*l.*—354,976*l.* 8s. 2d. The balance-sheet of the Pendleton Colliery from the same period, July 1, 1843, showed—creditors, 5015*l.* 8s.; capital, J. Kerrick, 16,451*l.* 13s. 8d.; ditto, John Fitzgerald, 135,523*l.* 11s. 7d.: making a total of 155,990*l.* 12s. 10d. Creditors' debts, 5132*l.* 12s. 3d.; cash at the bank, 274*l.* 7s. 2d.; lease of colliery, 90,000*l.*; buildings and machinery, 13,960*l.* 5s. 5d.; horses, carts, barges, &c., 1367*l.* 5s.; coals at Portsmouth, 1500*l.* Profit and loss, 43,753*l.* 7s. 6d.; balance, 2*l.* 15s. 6d. making a total of 155,990*l.* 12s. 10d. Mr. Cooper, the solicitor under the *fiat*, requested an adjournment, for obtaining further accounts of the Pendleton Colliery. Mr. Smith, for the bankrupt, argued that, from his great age and infirmities, he should be excused from furnishing further accounts, particularly as those before the court were gone into in detail. Mr. Commissioner Evans said he had no alternative, if the assignees required them, than to order the production of the accounts, and the case was adjourned for the purpose.

Mining Correspondence.

[The Commissioners of Inland Revenue having notified to us their resolve to charge with advertisement duty all reports having the agents' names affixed, we appealed to them in a memorial, setting forth that we, or the respective companies, derived no advantage therefrom—the only object sought, or obtained, being that of affording to the mine adventurer and public the greatest guarantee we could for the truthful and *bonâ fide* nature of the statements periodically set forth, by authenticating them, and thus fixing a responsibility on the writer. The Commissioners have replied, that "the reports, with names attached, are advertisements, and that duty will be charged thereon." We have no alternative but submitting to their dictum. How far the Commissioners are correct in the view they take, our readers can judge as well as ourselves;—we can but hope that, on reflection, they will see the error into which they have fallen, and rescind the orders they have issued. All reports inserted under this head, however, may, as heretofore, be considered as furnished by the regular agents of the company; and we shall carefully guard against the publication of statements which cannot be relied on as correct.]

BRITISH MINES.

ASHBURTON UNITED.—The several unforseen impediments often consequent on pioneering in new discoveries from old workings, and which occasioned a falling off in the monthly quantities of ore in these mines, have been now overcome, and the various pitches, with several new ones added to them of much promise, are now working with vigour, so that, doubtlessly, the increasing progression of returns, so confidently expected, are now in course of realisation. In the north lode, in the 55 fathom level, there are 18 men and 4 labourers stoping and driving on its course; the western end has a large favourable lode, which breaks down into considerable blocks of quartzose rock, containing chlorite, with gossan and mundic, and small leaders and specks of tin disseminated; the eastern end is of much promise, holding on to intersect a shoot of tin ore that is proving very valuable in the stopes above, and in the 45 fm. level. In the back of the 45 fm. level there are 21 men raising tin, divided into 7 pitches, with fresh ground occurring as the levels extend east and west. In the 35 fm. level the western end is just entering the shoots that are proving so productive below; the north lode has not been further explored from the levels above, but, doubtlessly, exists in its full value. On the middle north lode some very valuable tin ground has been opened upon after considerable driving. The pitches in the other lodes and branches are not very important, except in the Union lode, in the southern part of the mine, where an extensive lode, about 4 ft. wide, containing excellent stones of tin, has been discovered. Expectations are formed, on good data, of cutting, within a few fathoms, another lode further north from our present north lode; the cross-cut proceeding from the 35 fm. level, for this object, is in most favourable strata. The extensive deep levels parallel to the course of these north lodes will soon effect their development.

BARRISTOWN.—The lode in the winze sinking under the 16 fm. level is about 18 in. wide, with a small branch of lead, about 2 in. wide, on the foot wall. The lode in the back of the 16 fm. level is very large, and producing about 9 cwts. of lead per fm. The lode in the adit end east is looking more regular than we have seen it for several fathoms; it is divided, and about 1 ft. wide, thinly mixed with lead—the ground about it certainly looks better. The lode in the back of the adit, west of the slide, is producing 1 ton of lead per fm. in places, but the stopes in the bottom of the level do not look altogether so well as last reported. A pitch opened west of Nangle's shaft, in the back of the 16 fm. level, looks well for ore; we shall be working more extensively in this direction in the next month.

BEDFORD UNITED.—The ground in the engine-shaft is favourable for sinking. In the 103 fm. level there is no alteration. We have cut about 2½ ft. into the lode in the 90 fm. level east, but have not reached the north wall; the lode will yield, so far as it has been seen, from 2 to 3 tons of good ore per fm. The lode in Burley's winze, in the 90 fm. level, is worth 80*l.* per fm., and in Crewe's winze, in this level, the part of the lode carrying (about 16 in.) is yielding good work. In the 70 fm. level east we have cut into the lode for about 2 ft., which is producing good stones of ore, and looking much more kindly than it has been for some time past.

BIRCH TOR.—The lode in Dunstan's shaft is much improved, and is now worth 25*l.* per fm. The 10 fm. level, west of this shaft, is worth 20*l.* per fm.; we have also a good lode in the Birch Tor lode, in the shallow level, east of Hawke's shaft. The 10 fm. level, east of Prideaux's shaft, is producing saving work; we have not taken down the lode in the west end. The ends are let at—east, 2*l.* and 50*s.*; west, 50*s.* per fm.

BRYN-AR-IAN (LEAD).—The engine-shaft is driven 9 fms. below the adit level; lode large, yielding 15 cwts. of ore per fm.; the lode in the stope over the adit level, east of the engine-shaft, is 6 ft. wide, and yields 1½ ton of ore per fm.; the adit end east is suspended, in consequence of the stopes in the back and bottom of the shallow adit level throwing down their stuff; the lode in both these stopes produces 1½ ton of lead per fm.; the endmen are placed to stope down a piece of ground near the adit end west, where we have some very good work for 2 ft. wide, left standing by the old men; at present it yields 1 ton per fm. We are raising a fair quantity of ore; and, as soon as our crushing and dressing machinery are completed, we shall commence returning it.

BWLCH CONSOLS.—We have now sunk to the 35 fm. level, and are driving through the ore ground between the engine and Doran's shaft in that level. Instead of specifying the appearance of the ground in different places, I will enter into some calculations in order to prove its real value. The quantity of ore ground taken away in the mine from the commencement amounts, at the end of last month, to 1760 fms., which yielded on an average 12 cwts. of ore to a cubic fm. of ground. We are now working, and have been working since the commencement of our operations, on two bodies of ore. The western one gives about 45 cubic fms. of ore ground for every fathom sunk on the shafts, being 15 fms. long by 3 fms. wide. The eastern ore ground, being 20 fms. long by 5½ fms. wide, gives 110 cubic fms. for every such fm. sunk. I am satisfied that it will be practicable to sink and work away 9 ft. deep of this ore every month, which would give 139 tons of ore at common weight, or 132 tons at 21 cwts. to the ton. Our average stoping and drawing has been 80 fms. a month; our largest month's raising was in Oct. last, in which we broke 125 cubic fms., which yielded 105 tons of ore; but it must be observed that this yield was 50 per cent. above the average. As soon as arrangements are made for drawing away the quantity of ore ground laid open by sinking our shafts, we may safely calculate upon the two portions of the lode alluded to giving us a return of 130 tons monthly. The ground at present sunk I estimate at 2500 cubic fathoms, which will yield, taking the average of the whole ground stoped away, 1500 tons of ore, or, at a fair price, 18,000*l.* worth of lead and silver. These calculations do not include the eastern ore ground recently discovered by the 15 fm. level, or that in the south lode at Pwllgrnaid; we not having done enough upon these pieces of ground to be able to state their true value; but I believe both of these places will be sufficiently productive to work at good profits. From what I have stated, it will be seen that our drawing power is insufficient to enable us to return the ore otherwise available, as it is only capable of lifting 120 cubic fms. to the surface in the month. I expect by the end of this month to have a small high-pressure steam-engine at work, which will enable us to lift 250 fms. at a less cost than that for which horse-power could be supplied. The crushing and dressing power upon the mine is now very complete, and fully equal to the present productive power of the mine, say 130 tons monthly. It will be further observed, from the above estimates, that the quantity of ore yet standing above the 35 fathoms level is much greater than the quantity taken away since the present proprietary commenced to work the mine, proving that the ground has not been exhausted half so fast as it has been laid open; and it follows, as a necessary consequence, that, under such circumstances, the profits really belonging to the ground could not be obtained. In making these estimates, I have carefully avoided everything of a speculative character; they rest entirely upon admeasurements of ground and quantities of ore produced, and I submit them with confidence to the company. I would add, in conclusion, as another reason for the mine in time past not yielding larger profits, the inferior character of the prices at which the ores obtained have been sold, and the necessarily costly nature of the work to be undertaken in the earlier stages of the progress of opening mines.

CALLINGTON.—We have completed the whim-plat at Kelly Bray engine-shaft, in the 32 fm. level; the men are now engaged fixing pent-house, preparatory to sinking; the lode is from 18 in. to 2 ft. wide, producing good stones of copper ore. In the 50 fm. level, east from the north engine-shaft, the lode is 15 in. wide, producing stones of copper ores. In the 70 fm. level east the lode is above 2 fms. wide, intermixed with copper ores, producing 4 tons to the fathom; we expect this end to improve as we get east. In the 90 fm. level east the lode is rather poor; in the rise in the back of this level the lode is producing stones of copper ores; in this level, to the west of the lead lode, we have stones of copper ores. In the 100 west the lode is rather poor. The north engine-shaft is rather more than 9 fms. below the 12 fm. level; the ground is more favourable for sinking; in this level, both north and south, we are opening good tribute ground. In the 100 fm. level south we have a small branch of silver-lead ores; in the north end we calculate on being nearly through the portion of the cross-course that has fallen in with the lead lode; it is about 2 fms. wide, with a branch of silver-lead ores on the western side. In the 90 fm. level south we are opening tribute ground. At the south mine the lode in the 125 south is 8 in. wide, composed of quartz and silver-lead ores; in the north end the lode has not been taken down. In the 112, both north and south, we are opening tribute ground. In the 100 north and 90 south, the lode is producing silver-lead ores; the same remark may be made for the 70 south. In the 40 fm. level south the lode is small and unproductive.

CAMBORNE CONSOLS.—In the sink, about 10 fms. under the adit level (which is 40 fms. deep upon Martin's lode), formerly exceedingly productive, having realised very large profits in the Dolcoath Mines adjoining, they have a fine course of ore, worth about 40*l.* per fm. in the bottom, and rapidly enlarging itself as they proceed; they are at present, however, stoping east of the winze, from which they are now sending up splendid rocks of rich yellow ore, and have already sufficient at surface to sample 20 tons that will produce about 14 per cent., which is expected will be ready for sampling next week. I have been shown some beautiful stones of ore just discovered east of a small cross-course, which had before been concluded would be found to be the eastern extremity of the course of ore; this, therefore, is important, and will serve to increase the raisings, so that they can calculate, independently of further discoveries, upon bringing a good parcel of ore to ticketing every two months; and having little else but labour cost to contend with, at least for some three or four years hence, I think there is every prospect of putting a stop to any further calls upon the adventurers; and making dividends shortly. I need scarcely tell you, that they will continue to sink on the course of ore referred to, besides which they will drive a 10 fm. level west, and in its progress, and only about a dozen fathoms ahead, it is expected a fine caunter lode will be intersected, which not long ago, in the adjoining sett of Dolcoath, cleared about 70,000*l.*, and from which lode, it being, as well as Martin's, whole ground to the surface, upwards of 400 fms. in length, in Camborne Consols sett, I entertain the highest expectations; they are continuing the adit end west upon Martin's lode, which is looking promising; and I reckon (from its present appearance) upon a valuable discovery before long in that end; as to the eastward, the same lode made vast bodies of ore above our present levels. In a rise in the back of the adit, upon the south central lode, set upon tribute at rather a high figure, the tributers have discovered a fine bunch of ore, and are likely to get a start. I am glad of it, because it will probably lead to other discoveries. The south central lode was also abundantly rich in Dolcoath, and is a most important object to us, as it passes through the entire length of the sett, and will, there is every reason to believe, produce immense quantities of ore. There is a 20 and a 40 fm. level cross-cut (being respectively 60 fms. and 80 fms. from surface) driving north to cut the silver lode of Dolcoath and other north lodes. The silver lode, besides quantities of copper ore, produced a great many thousands of pounds worth of silver in the adjoining mine; and, from its promising character at the adit level, it is anticipated making valuable discoveries upon reaching it, and hope to do so in both the cross-cuts within three months; in the mean time they may intersect other lodes not at present known, but this is merely speculation: they have several other very promising lodes still further north, and by-and-bye will carry the cross-cuts on to work them, as they have the most unprecedented opportunity of working the ground to the great depth of 80 fms., independently of the aid of any machinery.

CARADON UNITED.—We are sinking our shaft exceedingly well, and expect our men will sink full 2½ fms. this month, at 14*l.* per fm.; in my last report I said we had the south wall of the lode in the shaft; this last 3 or 4 ft. the lode is caught back south, so we have not at this time the south wall. We can now see the lode to be from 7 to 8 ft. wide, and perhaps much larger, which is still composed of a strong gossan, soft spar, portions of iron, prian, and small portions of copper ore. I judge this lode, at a greater depth, will prove very productive.

COOMBE VALLEY SLATE QUARRY.—We are raising some very excellent slate of good sizes. A cargo of about 60 tons was shipped on the 12th, for Maldon, in Essex, consigned to a merchant of that port; we have another cargo now ready for London, which we hope to get off in a few days. Our quarry is looking very favourable.

CWM ERFIN.—Our 20 fm. level east is worth 10*l.* per fm.; the stope behind this end, 15*l.* per fm.; the stope east of the engine-shaft, 10*l.* per fm.; the stope west of the engine-shaft, 8*l.* per fm. Our 20 fm. level, west of the whim-shaft, is poor. We shall sample 20 tons on Wednesday next, and I expect it will sell at a higher price than our last parcel.

DEVON AND COURTENAY.—In the end driving west, in the 40 fathom level, the lode is 2½ ft. wide, composed of spar, white iron, and mundic, and some good stones of ore in the lode; the ground is still favourable for driving, and the water from the end continues to increase. The lode in the end driving east, in the 50 fm. level, on the south lode, is 2 ft. wide, about 1 ft. of which is good saving work; the other parts are chiefly capels and spar. In the stopes the men are working by the side of lode this week.

EAST CROWNDALE.—The plat of the 28 fm. level (Diamond's shaft) is completed. I have to-day set the men to drive south to cut the lode, which is about 3 ft. off; I hope in my next report to state that a good lode is discovered. The lode in the 17 fm. level east is disordered by a hard floor of elvan, which has much impeded our progress in this level; I hope, from the appearance of the ground in the adit level driving towards it, to report a considerable change for the better. I am glad to state that the adit level west, on the course of Thomas's lode, is much improved since my last report; it is composed of peach, spar, mundic, and tin, and worth 15*l.* per fm. Tippett's stope, in the back of this level, is composed of peach, prian, spar, killas, white iron, and tin, and at present worth about 35*l.* per fm. Paul's stope, to the east, continues without much variation since my last report, being about 30*l.* per fm., composed of peach, prian, mundic, spar, and tin.

EXMOOR WHEAL ELIZA.—Since our last but little alteration has taken place in the appearance of our caunter lode; it is still large, and spotted with copper; we have been a little incommoded with water; but all is going on favourably at present.

FOEL RHUDD (SILVER-LEAD AND COPPER).—Our working operations have been chiefly confined to surface work these last 10 days past. Richard Roberts and his partners have been employed excavating ground for the blacksmith's shop, coal yard, iron ditto, carpenter's shop, and office, and sinking the foundations for the buildings, and making the saw-pit inside the intended walls of the carpenter's shop. The aforesaid work being completed, I shall be in readiness on Saturday, the 19th inst., to receive the tenders for the masonry work to commence the buildings. In the shallow adit William Carlyon and his partners have driven east on the copper lode 10 feet, and in their progress have risen good stones of bright yellow copper ore, of the same quality as the purser took to London last week; it should be strictly borne in mind, that in exploring the before-mentioned 10 feet, we have intersected the north and south silver-lead lode, hove by the east and west copper lode 7 feet: it is not a usual thing for an east and west lode to heave a north and south lode, but such is the case here, and we have risen good stones of silver-lead ores in cutting through the said lode; it is a very kindly lode indeed; I shall be able to say more of it in my next, as I do intend to drive on the lode a few fms. Having given you the details of our proceedings during the last 10 days, I now advise you at once to send for the Cornish miners that I selected when I left Cornwall; by so doing we shall be able to get on with good speed in sinking the engine-shaft down to the 20 fathom level, at which place, from the present appearance of the lodes, I do not hesitate to say, we shall have a good dividend-paying mine.

HEIGNSTON DOWN CONSOLS.—Bailey's engine-shaft is sunk 6 ft. below the 35 fm. level. The 35, east of the said shaft, is progressing satisfactorily, in which the lode is 5 ft. wide, producing tin to the value of about 7*l.* per fm. The pitches continue to yield good work for tin ore. Hitchins's shaft is sunk 12 ft. below the 12 fathom level, in which the lode is 20 in. wide, producing occasional stones of grey ore. Richards's shaft, as also the 30 fm. level, west of Bailey's shaft, is suspended for the present.

HOLMBUSH.—In driving the 132 fm. level north we have intersected the main part of the lode, which is 8 in. wide, composed of spar, mundic, and stones of copper ore; the several small branches we intersected previous to the one above mentioned will form a junction with it, going west from their present direction, when it is highly probable an improvement will take place; we have commenced driving on its course. The ground in the 120 fm. level south, east of Hitchens's shaft, is moderate, and we think we are near the lode, from the water issuing from the end. The lode in the 120 fm. level south is 3 ft. wide, composed of quartz and lead, saving work. The lode in the 110 fm. level south, with the pitch nearest to it, will produce 6 cwts. of lead per fm. The Flapjack lode, in the 100 fm. level, east of the great cross-course, is gradually improving in size and value; it is 2 ft. wide, and will produce about 3 tons of ore per fm.—a very promising lode, and one that is likely to produce a great quantity of mineral, judging from present appearances. We purpose driving the 110 fm. level east on the same lode shortly.

KIRKCUDBRIGHTSHIRE.—The lode in the bottom of our engine-shaft is 6 ft. wide, with good stones of ore in places, and worth 6 cwts. of ore to the fm. The lode in the 50 east is still poor, but more kindly; the lode in the 50 end west is 18 in. wide, with a good stone of ore coming in again; we expect an improvement here shortly. The lode in the 40 end west is 2 ft. wide, and worth 5 cwts. of lead to the fm.; we have holed the winze in the bottom of this level to the 50 this week. The cross-cut from the bottom of the winze in the 30 east is not yet through the lode, but we hope soon to be so.

LAMHEROOE WHEAL MARIA.—The ground in the engine shaft is much easier, but the lode is as last reported, and there is a great influx of water issuing from it. The engine-shaft is sunk 4 fms. 3 ft. below the 50 fm. level, and Davey's shaft nearly 4 fms. below the 40. The size of the lode cannot be ascertained for a week or two.

LLWYNMALEES.—The lode in the London shaft has much improved since my last report, and looks very promising for further improvement. Our water-wheel is complete master of the water throughout the mine. The lode in the 14 fm. level contains some good lumps of ore. We have opened on the lode the north side, and have found the north lode running about 45° north of east. I have now put two men to drive on this lode eastward. My previous opinion has now been confirmed, that the north and south lodes had formed a junction, and were going westward together; and from this I believe we shall have a good mine to the west; we have a fine lode full of ore in the 14 fm. level west; and the London shaft looks more promising than ever.

MENDIP HILLS.—We have now a tolerable good pile of slags prepared for the furnaces, which I intend to commence smelting to-morrow morning. The beds of slagstuff in Charterhouse Valley continue without any material alteration, being about 16 ft. thick in the centre of the producing good slag work. In Ubley and Blackmoor slag ground I have no additional news to communicate, our principal operations, at the present time, being in making and fixing the necessary machines, &c., for washing and cleaning the slags, which is being done with all possible dispatch.

SOUTH DOLCOATH.—The lode in the engine-shaft, sinking below the 50 fm. level, is 3½ ft. wide, with spots of ore; in the 50 fm. level west the lode is 3 feet wide, very kindly, with an increase of water; in the 40 fm. level east the lode is 4 ft. wide, with stones of ore; the lode cut in the north costean pit proves to be a north underlayer; we have, therefore, removed the men to costean further south, under expectation of cutting one of the Condurrow lodes.

SOUTH WHEAL TRELAWNY.—The engine-shaft is in course of sinking with nine men, with ground favourable, and water just the same as last mentioned; the engine also continues to work well—shaft sunk 6 fms. below the 30.

TAMAR SILVER-LEAD.—The engine-shaft is sunk 2 fathoms below the 190 fm. level; the lode in the shaft is small and poor; in driving south in this level, the lode is 18 in. wide, saving work, but of a coarse nature. In the 175 end the lode is 1 ft. wide, producing a small quantity of ore. In the 160 end the lode is 2 ft. wide, yielding good profitable work. In the 145 end the lode is 3 ft. wide, composed of can and capel, interpersed with ore throughout, and leaving backs that will be taken away at a moderate tribute. The 135 end is still suspended, by reason of so much stuff coming from the tributers; the incline shaft is down, and the railroad fixed, to the 135 fm. level, which is a great advantage in drawing the stuff from this point, and will enable us, in a short time, to commence drawing the 135 end. At North Tamar, in the 80 fm. level, north of the shaft, the lode is 6 in. wide, composed of capel, mundic, and ore; in the 70 fm. level north the lode is 3 ft. wide—6 in. of which is good work; in the same level, driving south, there has been no lode taken down since last reported on. Our last parcel of April ores, computed 91 tons, was sold to Messrs. Robert Michell and Son, at 20*l.* 2*s.* 6*d.* per ton.

TINCROFT.—We shall commence sinking Palmer's shaft, on East Pool lode below the 90 fm. level, in a few days; the shaftmen are at present engaged in cutting plat for cistern, &c. The lode in the 90 fm. level west is 2 ft. wide, with stones of copper ore. In the 80 fm. level west the lode is worth 7*l.* per fathom for copper. In the 24 fm. level, driving west towards Stainsby's shaft, the lode is worth 45*l.* per fathom for copper; we have resumed sinking the latter shaft, and hope in about a month's time to communicate with the 24 fm. level. At north Tincroft, the shaftmen are cutting plat, &c., in the 100 fm. level; we shall begin to sink below this level in a week or 10 days' time. The lode in the 100 fm. level east is worth 14*l.* per fm. for copper; in the 100 fm. level west the lode is 2 ft. wide, worth 12*l.* per fm. for copper. In the 90 fm. level, east of Willoughby's shaft, the lode is worth 9*l.* per fathom for copper; in the 90 fm. level west the lode is worth 14*l.* per fathom for copper. In the 80 fm. level, east of Willoughby's shaft, the lode is worth 9*l.* per fathom for tin. On Highburrow lode, in the 152 fm. level, east of engine-shaft, the lode is worth 8*l.* per fathom for tin. In the 142 fm. level, east of Martin's east shaft, the lode is worth 10*l.* per fathom for tin; the stopes in the back of this level, east and west of the shaft, are worth 16*l.* per fathom for tin. In the 132 fm. level, east of Martin's east shaft, the lode is worth 16*l.* per fm. for tin; in the west end, same level, the lode is worth 12*l.* per fathom for tin; the stopes in the back of this level, east and west of the shaft, are worth 22*l.* per fathom for tin. We have commenced driving the 120 fm. level, west of engine-shaft, the lode is about 3 ft. wide, and worth 9*l.* per fm. for tin. Chapple's lode, in the 100 fm. level, west of downright shaft, is worth 8*l.* per fathom for copper. In the 90 fm. level west the lode is worth 18*l.* per fathom for copper; in the winze, sinking below this level, the lode is worth 15*l.* per fathom for copper. In the 80 fm. level west the lode is worth 10*l.* per fathom for copper. We have communicated Chapple's shaft on the south lode with the 84 fm. level, the lode is worth 8*l.* per fm. for tin and copper. At Wheal Providence (Druid lode), we are cutting down the engine-shaft, and preparing to sink below the 33 fm. level.

TRELEIGH CONSOLS.—Garden's shaft, below the 113, is sinking in the country south of the lode; in the 113, west of ditto, the men belonging to this level are employed in holing a piece of ground below the 70. In the 90, west of ditto, the lode is 20 in. wide, worth 6*l.* per fm., and is looking kindly. In the 80, west of ditto, no lode taken down this week. In the 60, west of ditto, these men are employed to hole the piece of ground below the 70, as alluded to above. Parent's engine-shaft, below the 20, is sinking in the country. In the 20, east of ditto, the lode is 18 in. wide, with stones of ore; in the 20, west of ditto, lode 1 ft. wide, disordered by a cross branch; the 20 cross-cut south is driving towards the middle lode. In the adit east, on the middle lode, the lode is 15 in. wide, worth about 3*l.* per fm., and looking kindly.

WEST WHEAL JEWEL.—In the rise in the back of the 70 fathom level, west of Williams's cross-course, on Wheal Jewel lode, lode worth 6*l.* per fm. In the winze in the 57 fm. level, west of Williams's cross-course, on the same lode, lode worth 10*l.* per fm. In the 47 fm. level, west of Williams's cross-cross, on the same lode, lode worth 4*l.* per fm. In the deep adit, west of Williams's cross-course, on the same lode, the lode is looking more promising for ore than it has for some fathoms in driving. The stopes in the back of the 12 fm. level, west of Pryor's winze, on Tolearne tin lode, lode worth 16*l.* per fm.; the stopes in the back of this level, east of Pryor's winze, worth 12*l.* per fm.; the stopes in the bottom of this level, east of Tregoning's shaft, worth 15*l.* per fm.; the stopes in the bottom of this level, east of Tregoning's winze, worth 16*l.* per fm.—these stopes are working on tribute.

WHEAL BAWDEN.—We are progressing very favourably with our adit level, the first bargain of 5 fathoms being completed yesterday, in the last of which, I am most happy to acquaint you, the men very unexpectedly intersected and cut through

lode, about 2 ft. wide, consisting of extremely favourable characteristic indications; though only 2 fms. from the end it is impregnated with spots of silver-lead ore in the gossan, &c.; this lode, I presume, is that not previously seen in costeaning, or known to exist, therefore giving a new and additional feature to this previous promising property, of no trifling consideration. I have just set the men another bargain, of 10 fms. stent, or until the end of the present bargain, at 7l. per fm., the ground proving more favourable, through the intersection of the lode.

WHEAL MARGARET.—The lode in the 50 fm. level, south of Barratt's shaft, is 4 feet wide, worth 12l. per fm.; the stopes in the back of this level are looking well. It is stated that we were preparing to sink a winze under this level near the boundary, but we have not been able to commence, in consequence of the water being too deep; there is a little lying in Trelawny's level, which might be moved in a few hours, but we cannot will not allow it to be done; for what reason I know not, as it would be so much advantage to Trelawny, at the same time it is a hindrance to us, and I consider they are acting very unjustly in depriving us of the use of the level, having already paid Trelawny adventurers, as per agreement with the late Capt. Bryant, for that purpose, and it is but fair that any company should enjoy that which they purchased and paid for. The lode in the 40 fm. level, south of this shaft, is 2 ft. wide, and worth 6l. per fm; the stopes in the back of this level are looking very well. At Pollard's shaft, the 50 fm. level cross-cut is driven west 10 ft.; the shaftmen are now employed in casing and sinking the shaft from the 40 fm. level to the 50, when finished they will again resume the cross-cut towards the lode. The lode in the 40 fm. level, north of this shaft, is 1½ ft. wide, and worth 15l. per fm.; the stopes in the back of this level are looking exceedingly well; in the same level south it is 2 ft. wide, composed of can and lead, worth 5l. per fm.; the lode in the rise in the back of this level is 1 ft. wide, composed of can and spots of lead. The lode in the 30 fm. level is still in branches, composed of can and lead; the stopes in the back of this level are also looking very well. The 15 fm. level south is suspended, and the men are put to rise from the stopes in the back of the 30 to ascertain whether the 15 is on the main part of the lode or not. We sampled on Wednesday last a parcel of lead ores, computed 70 tons, for sale on Friday the 25th inst.

WHEAL PENHALE.—Since my last report we have broken down the lode in the 20 fm. level north and south, and found it rich—indeed, far superior to what I had anticipated. I think what those ends have produced this week will not fall much short of 4 tons of marketable lead when dressed. In the 10 fm. level north we have met with a very great improvement this week, the lode, though daily getting into shallow ground, is now from 3 to 4 ft. wide, producing very fine work in copper throughout; in this level south we have also to-day made a very important discovery indeed in cutting a side branch of the lode, which is about 1 ft. wide, from 5 to 6 in. of which is nearly solid lead. The pitch in this level north is yielding splendid copper, and in no small quantity for two men, they only being engaged in it. The other pitches appear much as usual. Before I conclude this report I would add, that the dressing-floors of this mine were never before so beautifully adorned with rich piles of ore; nor did its underground department so gaily present itself with such fine lead and copper as at the present moment, which will be daily added to the former; and, lastly, I would say our interior prospects (though very good indeed) were never equal to the present.

WHEAL TRELAWNY.—Phillips's shaft is sunk 9½ fms. under the 72 fm. level, and we hope to complete to the 82 by the end of the month. The lode in the 72, north of this shaft, is 2½ ft. wide, and worth 9l. per fm.; in the same level south the lode is 1½ ft. wide, and worth 7l. per fm.; the lode in the rise in the back of this level north is 3 ft. wide, and worth 11l. per fm. The lode in the 62 fm. level north is 4 ft. wide, and worth 24l. per fm.; all the stopes in the back of this level are looking very well. Trelawny's shaft is sunk 18 fms. 5 ft. under the 52 fm. level; the ground continues favourable for sinking; the lode in the 52, north of this shaft, is 3 ft. wide, and worth 10l. per fm.; all the stopes in the back of this level are looking very well. The stopes in the back of the 42, north of this shaft, are looking very well. In the north mine, the lode in the 40, south of Smith's shaft, is 4½ ft. wide, worth 7l. per fm.; in the same level north the lode is 2 ft. wide, worth 5l. per fm. The lode in the 30, north of this shaft, is as was last reported; the lode in the winze under this level south is 2 ft. wide, worth 6l. per fm. The lode in the 45, north of Trehane, is 2 ft. wide, and worth 8l. per fm.; the lode in the 35, north of ditto, is at present small—ground favourable. The parcel of ore, computed 105 tons, sampled on the 12th inst., was sold this day to the Tamar Company, at 17l. 7s. 6d. per ton.

WHEAL TREMAYNE.—In the new shaft, in the 58 fm. level west, the lode is 18 in. wide, and for the last 4 fms. has been rather poor. Allen's branch has been intersected in this level, and 6 ft. opened on its course, worth about 4l. 10s. per fm. In the 45 fm. level the lode is split, and in the end, at present is not so good as it has been. The 45 cross-cut, towards Allen's branch, is driven 7 fms., progressing favourably. The 40, west on Allen's branch, is worth 3l. per fm. The winze in the bottom of the 40 will be communicated with the 45 in a few days, lode much as in the latter. The 70 fm. east of Alexander's, is suspended, and the men applied to open on the north lode, in the 30 fm. level, east of Alexander's. Madern's 50 west has been driven through the cross-course—lode from 6 in. to 1 ft. 6 in. wide, opening ground that will work at a moderate tribute. In the 40 west, the lode is small and unproductive; a few fms. will reach the cross-course, when the lode may be expected to assume the same appearance as in the 50. The 70 cross cut, from the 2at rod shaft, has intersected the south lode, which is 2 ft. 6 in. wide, will pay the expense of driving, and open tribute ground. At Wheal Margaret, in the 30 fm. level west, the lode varies from 6 in. to 1 ft. 6 in. wide, with stones of ore occasionally. The 30, east on the branch, is 6 in. wide, composed of flookan, quartz, and good stones of ore. The 40, east of shaft, is driven 7 fms., 3 fms. through orey ground—lode in the end yielding 2 tons of ore per fm. The winze in the bottom of the 30, 6 fms. in advance of the 40, is worth 2½ tons of ore per fm. On Saturday last we set Wheal Margaret shaft to sink below the 40 fm. level, and Madron's below the 50 fm. level. The tribute department is the same as for some time past.

WHEAL VINCENT.—Our wheel is at work in pumping; the ground in the shaft is just as last reported—very favourable. The south lode is still producing good work for tin. The tributers are raising a good pile of work, and the lode continues good.

FOREIGN MINES.

ALTEN MINES.—The following is the estimated produce for March:—

Mines.	Tons of Ore.	Per Cent.	Fine Copper.
Raipes	54	7	3·78
United Mines	52	6½	3·38
Old Mine	63	6	3·78
Ryper's	1½	8	0·12
Mancur's	2½	6	0·15
Michell's	6½	6	0·52
Carl Johan's	3½	10	0·35
Total	185		12·08

Mining Report from the 13th March to the 28th April.

Raipes.—The workings, within the last month, have undergone more changes than for a long time past; but, on the whole, these may be said to have been rather favourable than otherwise. The foot stope in the 10 fm. level, on Labouchere's lode, has deteriorated, and the ore is again very confined; but the stope west of Monk's shaft, in the 20 fm. level, has developed itself very favourably, with every prospect of a still greater improvement. Monk's shaft is now rather more than 6 fms. below the 20; it continues in the same limestone stratum, with occasional veins of rich purple ore, which, however, are not sufficiently large or numerous to save. In the roof stope, above the 20, we have communicated with an old winze, sunk about eight or nine years ago, from the 10 fm. cross-cut; the lode in this place is still very productive and promising. After driving 15 fms., almost the whole extent in dead ground, in the 20 fm. cross-cut northerly, we at length intersected a large promising lode, composed of green, purple, yellow, and black ore in gossan; it is not rich—yet, notwithstanding its present unsettled and irregular appearance, the prospects are more flattering than any thing of the kind before seen at this depth; in my next report I hope to be able to forward a still more satisfactory account of this discovery. We have at length succeeded in timbering and securing the run in shaft No. 2, and in the course of next month hope to commence picking over the stuff in old No. 11. The returns are still low, but the summer now approaching will, I hope, enable us to increase the produce by setting the usual additional surface work.

United Mines.—The workings on Ward's lode, although on the whole somewhat deteriorated, still continue to yield satisfactory returns, and we hope of an improved per centage. The new sink is much improved, and the tributers are making fair returns; at Woodfall's a good branch of ore has been found on the back of the lode, from which we expect the tributers will produce some good parcels. The prospects are rather less flattering than when last reported.

Old Mine.—The produce of this mine continues satisfactory, and the prospects are equally promising; the appearance of the lode in every part of the mine leads us to form a sanguine opinion of its future capabilities; and the improvement before alluded to in the new sink continues to make a gradual and steady development. The prospects of our being able to keep up a regular and permanent return of ore from this mine are now greater than for many months past.

Ryper's.—The tributers continue to produce a small quantity of good ore, and as the summer advances we expect this will be found to increase.

Mancur's.—Since my last report we have commenced sinking the old shaft under the adit, which we hope will prove more remunerative than formerly; the lode is large and favourable for working, but the appearance is now not altogether so very enticing.

Michell's.—Our progress at this mine is satisfactory, and the prospects are good; we have recommenced operations on the old attle heaps, and hope to increase the quantity of surface work in the course of next month.

Carl Johan's.—Within the last few days an important change has again taken place; the lode, in the early part of the month, became poor, but it is now composed of almost solid prills, and the tributers will be equally successful as before.

The produce for March has experienced a considerable increase, principally arising from improvements in the United and Old Mine. The estimates are fully borne out by the returns, and the result of the year will, I expect, show an excess of about 14 tons of copper in favour of the latter. In consequence of the falling off at Ward's, we do not expect the April produce will be quite so great; but, on the whole, the deficiency will not materially affect the total produce.

ANGLO-MEXICAN MINES.—*May 23.*—The board have received a letter from Mr. Brough, dated April 9th. He had succeeded in getting cash for the Asuncion existencies to the amount of nearly 85000, and was occupied in disposing of the remainder of the company's stores, &c.; he intends remitting the funds at present in hand at the first good opportunity.

AUSTRALIAN MINING COMPANY.—*Adelaide, Feb. 9.*—Immediately after closing my letter of the 31st January, I started with Mr. Barrow to visit the company's property at Tungkillo; and after a minute inspection of the works, and of the system of keeping the office books, and a ride over a considerable portion of the survey, we returned here on the night of the 4th inst. I found the mine had been worked in a masterly and effective manner; and much praise is due to both Capt. Phillips and to Capt. Dennis, his predecessor in those operations. I inclose you a copy of Capt. Phillips's report of the 25th January (original, per *William Money*), by which you will perceive that the boring of the deep adit, hitherto termed the 40 fathom level, into Baker's shaft, has been effected.

Capt. Phillips's monthly report will not be received here until the 10th inst., but in the absence of this document, I may briefly say that although the adit is completely opened, it is still encumbered with attle, or rubbish, but which will speedily be removed. Some very fine copper has been taken from the lode in this adit, and it is Captain Phillips's intention to drive therein two short cross-cuts, so as to intersect Anstey's lode a short distance south from its junction with Baker's lode. Capt. Phillips appears to entertain full confidence that this operation will result in the development of a strong body of copper ore—an opinion in which I am disposed to coincide.

The quantity of ore upon the floors will be specified in Capt. Phillips's reports; and I have pressed upon him the necessity of sending this down with all possible speed. There remains also a considerable quantity of inferior ore, which it is conceived will scarcely be worth the expense of shipment to England—the ultimate disposition of which will be matter for future consideration; most probably it will have to be smelted in the colony. The utmost harmony and good feeling appears to exist among the miners and the officers of the company—not a single complaint having been offered, and setting bargains were cheerfully taken at the captains' prices.

After a careful examination of the books and stores of the clerk of the mine (Mr. Solly), I have great satisfaction in bringing under the favourable notice of the board the extremely correct and methodical plan which this gentleman has adopted in his office. I avail myself of this opportunity of likewise reporting to the board my high opinion of Capt. Phillips's ability and fidelity to the interest of the company, and of recording my obligation to Mr. Borrow, the secretary, for the clear and satisfactory manner in which he has rendered me every explanation and information I have required, not only in his own department, but as connected with the general affairs of the company.

Feb. 2.—The Tungkillo setting report shows that 75 men are employed; the total quantity of ores supposed to be above 26 produce, sent to Port Adelaide, 292 tons; now lying in and on the mine not dressed, 68—above 26 produce, 360 tons; lying on the mine, produce from 12 to 15 per cent., 225 tons.—Total raised, 585 tons (21 cwts.)

Monthly Report.—The stopes under the 30 are now worked away to within 8 ft. of the back of the 40. We have begun another stope downward from the 30—thus leaving a piece of entire lode in the back of the 40, to keep the ores from falling down into the 40 fm. level, which will, however, be broken down more advantageously when the railway is completed to extract the ores; these stopes continue very good. In stoping south from Goad's winze, in January, we have proved that the course of ore is going back in the western side of the 40 fm. level, more solid and of higher per centage than in any other part of the mine; and in stoping north from said winze, below the 40, we have discovered ore still further west than was expected. We shall, therefore, cut in westward in February, where we can break a much larger quantity than in the solid lode. On Horne's lode we have sunk only 1 fm. in January, the water being more than can be effectually drained by manual labour, and we have not a spare horse pump to put on it. In Anstey's shaft the ground continues to be of the usual hardness; we are sinking 1½ fm. in a month. In the 40, north of Phillips's winze, in January, we have driven 3½ fms., leaving the lode, which is hard, standing unbroken in the western side of the level, and have now begun to drive south to communicate to Stephen's winze, as we are in want of ventilation in this place. In the 40, north of Stephen's winze, we have driven in January 3½ fms. and broken some good stones of ore, the lode being most promising in going down. In the new shaft, on Baker's lode, we are now 11 fms. deep, and the ground is getting softer; we have not seen any ore in this shaft as yet; on the north end mine we have, driven 3½ fms. west towards the side lode, but have not yet cut into it. The holing of the adit has been effected in January, proving the dialing and leveling to be exactly correct; we have laid down 120 fms. of the railway, and have better ventilation in the mine than we ever had before. No time shall now be lost in completing the railway, which, when completed, will greatly facilitate our operations. Cross-cuts are being driven in the adit, or 40 fm. level, both from Rablin's and from Lean's winzes, to cut Anstey's lode, and from both of which I anticipate a good course of ore, and, consequently, an increase of produce. In the month of January, as was anticipated, we have raised 100 tons, about 50 of which will produce 26 per cent., and 50 tons from 12 to 15 per cent.; the latter part will remain on the mine. The exploring party are now searching the best mineral land, or supposed best, because more indications of copper are to be seen at surface, along the ranges of hills between the north and south mines, which for two miles in length is unwrought, and in which 30 men, in addition to our present force, may be advantageously employed. I am still well pleased with our prospects, and feel impressed that my anticipations will be realized. The miners are generally in good health and spirits, and perform as much work as any set of men I have hitherto had the command of.

BOLANOS MINES.—[Received 23d May].

EL BOTE MINE, *April 2.*—At San Genaro shaft we are busily engaged in putting down the main rods of the engine, and up to date have about 120 varas fixed; and I hope to be able to begin putting down the pitwork on the 5th inst. As far as regards the pitwork, I have no hesitation in saying that it will be all completed and ready for the engine to go to work by the latter part of the present month. The water in the shaft has been kept at about 35 varas above the head of Taylor's cross-cut with the two malacates at full work. In the level east of Compania cross-cut, 7½ varas have been driven during the month; but notwithstanding the vein at this point being very wide, it is nevertheless very poor, with pintas of azogue only. In the same level, west of the cross-cut, 7½ varas have been driven, in which the vein is about 1 vara in width, composed of quartz, bronze, and blende, and we occasionally meet with some tolerably good azogues, but the greater portion of the vein is poor. In plan No. 2 east, the vein has improved a little, and the average extraction of carga, during the last three weeks, has been about 50 cargas per week. In plan No. 3, the vein is about 3½ varas wide, and has yielded a good deal of cargas during the month, although of low ley; but I am sorry to say that it has again become disordered, and that our extraction from this point, during the last week, has considerably fallen off. In plan No. 4, we again set a few paradas to work during last week; but the vein is very much disordered and poor, consequently the carga extracted from this point is small. In No. 5, the vein is narrow, about ¾ vara in width, but the ore is of good ley. In the rise of Guadalupe east, the vein has considerably fallen off; and, as we have now worked up to the colorados, I fear this working will soon give out altogether.

In the level east, from plan No. 2 west, the vein, although small, was in ore of good quality when last reported; it has since disappeared, and this level is at present very poor. The extraction of carga from the mine during the month ending on the 24th, was 1335 cargas Grueso, and 975 cargas Granzas and Nerras—making a total of 2310 cargas; but in consequence of the very limited laborio we have to work in, and at the same time the falling off of some points, I fear we shall fall short of the above quantity during the present month, or until the engine goes to work. Plan No. 2, east, is now half a vara below the head of the level of Compania, and No. 3 is nearly level with it, and in both of these workings (at present the most promising in the mine) we have water, and, of course, cannot expect to go much deeper until they are drained by the engine; but as nearly all the water we have at San Fernando shaft is coming from the east of Compania cross-cut, I think it will be immediately effected as soon as we can lower the water again in San Genaro shaft to Taylor's cross-cut. There still, however, must exist a doubt as to whether the planes will be entirely drained or not. If such should be the case, I would propose to continue plan No. 3 as a Poso de Guia below Compania level, and to open laborio below this level; should, however, some water still remain, I propose placing pumps in the winze, and throwing the water into San Fernando shaft, to be drawn by malacates, until the vein shall have been cut through in Taylor's cross-cut, and the workings thereby completely drained.

Extract of a Letter from Mr. Birkbeck, dated April 6.

I have the honour to acknowledge the receipt of your favour of the 31st January, with the enclosed statements and accounts, of which due note has been taken.

CELESTINA.—This week I have stopped the bargain of the south end of San Juan, there being no appearance of ore, and I am again reduced to a few pares of busconas, and think it not improbable that, in a few weeks, it may be expedient to return the mine to its owners.

EL BOTE MINE.—I beg to refer you to the report of the chief miner, by which you will perceive that there has been no improvement in the general state of the workings. Our two best bottoms are now close upon the water level, which already interferes considerably with the working of those points. The rise from Guadalupe, from which a large proportion of ore has been derived, has reached the colorados, and has fallen off in consequence. The works which were carried on with the object of examining the vein eastward and westward, were discontinued long since for want of funds, so that our operations are limited to the small portion of vein near San Fernando. There the rises become valueless as soon as they reach the colorados, and the working of the bottoms must soon be obstructed by the water; there is, therefore, no prospect of improvement until the mine be drained through Taylor's cross-cut.

The chief miner assures me that the engine will be at work by the end of the present month, and the pumps put down as far as the cistern of Victoria. We shall then endeavour to draw the water with the two whims to that level, so as to facilitate the putting down the other lift as far as Taylor's cross-cut. The necessary surface works are being completed as speedily and as economically as possible, but still much remains to be done. The forges and fitting-up shops, &c., are as yet mere skeletons without roofs, and it may be necessary to provide dwellings for the men who are required about the engine: but this I intend to contrive out of the stables, which will not be required on so extensive a scale when the whim drainage is suspended.

IMPERIAL BRAZILIAN MINES.—*Bananal, March 3.*—I have nothing to record concerning Gongo worthy of your notice.

Bananal.—At this place our western cross-cuts, in the adit level, from Wray's and Goldsmid's shafts, are still penetrating a hard rock. In the same direction, our cross-cut in the 14 fm. level from Walker's shaft goes rapidly through the jacotinga formation, but has not yet reached the gold-bearing vein. In the 7 fm. level we have opened the intended communication on the vein, between the cross-cut west of the same shaft and Thomas's shaft, and are rising on the vein near the latter, intending to stope away the ground near the shaft, whence, from time to time, we have already taken some rather inferior work. We have commenced driving northward from Walker's cross-cut in the 7 fm. level, and the vein has a very encouraging aspect, and affords slight samples of gold; the ground about it is of a favourable character, and we have already intersected several cross veins, which must be further examined as soon as our workings on the vein are advanced far enough for two parties of men to work without interrupting each other. We have extracted three boxes of tolerable work for the washing house from the back of the 14 fm. level, south of Thomas's shaft, but we cannot venture to promise much from it, although we may perhaps obtain something more. The increase of water as we extend the 14 fm. level from this shaft is so great that the old wheel is not of power enough to raise the whole of it to the adit; we are, therefore, preparing to apply that which now drains Hollingsworth's shaft (where we see nothing worthy of much further pursuit) to a lift or two in Gibson's shaft, the old wheel continuing to drain the deepest part of Thomas's with a larger pump, if the increased speed obtained by relieving it of the upper lift be insufficient with the present one. A little work for the washing house, and pretty much for the stamps, has been afforded by the big pump vein below the 6 fm. level, but the vein is small, and at present the rock near it is very hard. Our cross-cut westward, in the adit level, between Thomas's and Hollingsworth's shafts, had laid open nothing of interest since my last. At Hollingsworth's shaft we have limited ourselves to stoping some ground in the back of the 7 fm. level west, as we can find nothing worth the trouble and expense of sinking, and we shall shortly confine our operations to the extension of a single level southward on the jacotinga, as nothing in this part of the mine seems to warrant any greater outlay. We have discontinued driving on the veins at Morro das Almas for the present, as we fear the recent rains may have so softened the ground as to endanger the workmen. We shall, however, resume our work again as soon as dry weather will permit.—P.S. Five boxes of work extracted from the vein above the 14 fm. level, south of Thomas's shaft, since the foregoing was written, have given 6 lbs. of gold, which we have included in the February account.

Bananal, March 6.—The appearance of the vein in the 7 fm. level, north of Walker's cross-cut, has materially improved within a few days, but it still affords nothing worthy of being preserved; south of Thomas's shaft also, between the 7 and 14 fm. levels, the vein has much improved in character.

March 13.—Gongo is without a single change needing remark; at this place our cross-cuts, west of Wray's and Goldsmid's shafts, in the adit level, still continue to penetrate a very hard stone; that from Walker's shaft, in the same direction, in the 14 fm. level, advances rapidly, but has not yet reached the vein, the object we have in view. The vein in the 7 fm. level, north of Walker's cross-cut, is split into numerous minute strings, and the rock near it is harder and less favourable in appearance than it has been. We are taking away for the stamps some portion of the vein above the 7 fathom level, north of Thomas's shaft; and above the 14 fm. level, south of it, we have obtained a trifling quantity of work for the washing-house. The 14 fm. cross-cut, at Walker's shaft, has relieved Thomas's of some of the water which had annoyed us there. We have again sunk a short distance on the vein, but it is small; and although it affords good samples for stamps work, it is not good enough for the washing-house. During the past 10 days we have done nothing of consequence on the Big Pump vein. Between Thomas's and Hollingsworth's shafts our cross-cut westward proceeds rapidly, but has disclosed nothing of consequence. Near Hollingsworth's shaft our only operations at present are limited to the removal of some portions of the back of the 7 fm. level to the stamps, but this spot will be very soon exhausted. The rains have prevented our doing any thing at Morro das Almas since my last respects.

March 23.—Gongo presents nothing now; no alteration worth recording has taken place here since my last report. Our operations in the deeper parts of the mine were impeded for some days, in consequence of the engine beam at Walker's shaft having sustained a severe injury, but it was repaired with the utmost possible dispatch, and the mine is now thoroughly drained.

Gold Report.

Gongo—from 3d to 22d March	Lbs.	12	7	15	0
Bananal—from ditto ditto		11	10	4	0—24 5 19 0
Total from 1st January, 1849—Gongo	Lbs.	43	8	8	0
" " Bananal		58	9	11	0
Total	Lbs.	102	5	19	0

UNITED MEXICAN MINES.—*Guanaxuato, April 9.*

Mines of Rayas.—In transmitting herewith the usual monthly report of Mr. Parkman on the workings and operations in detail, I have the satisfaction to observe, that the retrenched system of work and of expense, alluded to in my last letter, as having been adopted by me to meet the impoverished state of the mine, has been attended with complete success, in not only equalising costs with produce, but has also turned the scale from loss to profit—a gratifying result; however, somewhat assisted by well-defined improvement in the ores yielded by the principal workings—the pit of Santo Toribio, and the ends of Jesus and Purissima, as also by the higher and more complete dressing of the ores generally. The last named operation has reduced the produce numerically, but the quality has risen 100 per cent., taking into account the saving of reduction expenses by the concentration into 600 or 700 cargas of the silver hitherto contained in 1000 to 1100 cargas of ore. It may be very naturally asked, why this obvious benefit was not availed of earlier? The reply to which is, that not only did the mine give a disproportionate quantity of tierras, owing to the character of the workings and the softness of the vein, but that the silver, in infinitely less ratio than the gold, was so minutely disseminated over the ore, that to collect the gold it became necessary to deal with a larger mass of ore, and containing only silver enough to pay its reduction expenses, which, but for the gold, would have been thrown away as useless. There are yet some tierras of this kind, but in very much smaller quantities than heretofore, the gold in which is greater when apart from silver than that in better class ores.

The effect of the present system of operations gave a gradual increase of returns over expenses during the first two weeks after its adoption: and in the last two of the month just ended, the profit beyond all expenses is estimated at 83000 per week, which, I am happy to say, continues in the same ratio to the present time, barring a slight interference therein by the Easter holidays. The sales also, on joint account with buscones, show a trifling increase, but its continuance is both doubtful and precarious, owing to the exhausted state of those workings. The mine debt remains at 8527,102 0 6. The following figures show the result of general operations during the four weeks ending the 31st of March, as compared with a like period to the 3d of the same month:—

Four weeks ending—	Picked Ores.	Half Sales.	Outlay.
March 3	Cgs. 2591	$3738 5 0	$26,295 7 3
March 31	2588	4447 6 0	22,316 6 7
Cargas	3 Decrease.	$709 1 0 Increase.	$3979 0 4 Decrease.

Mine of Aldana.—The shaft has already reached to the depth of 40 varas; the small transversal vein found there some time ago has nearly disappeared, and has never proved of any benefit, owing to the ore not being good enough to pay even its reduction expenses. In a few days I shall have some barmen put into the former workings, with the twofold object of extracting some ore, now that we have attained partial security from interlopers, and to gain increased depth for a communication with the shaft at 100 varas. If the present character of the ground does not change, we ought to reach the upper wall of the vein with the shaft in October next.

New Mines.—I have now to transmit to you herewith enclosed a copy of contract of aviso for the mine of Promontodio, situated on the Veta Madre, and contiguous to Rayas, which has been secured for the association for a term of 20 years from the 24th March, as per date of agreement. The mine consists at present of one ceradra, or square, of 200 varas, which the owners will increase by the acquisition of another similar quantity of ground through the "Deputacion de Mineria." The terms of this contract are not so strikingly advantageous as could be wished, in respect of the share assigned to the company. The term of contract is for 20 years, terminable at any time by the company, but obligatory and binding to the owners; the company to have 13 bars out of the 24 as usufruct during said period, contributing with the produce of five bars, and the owners with three, towards the payment of the mine debt, whenever such debt exist, which, and quarterly liquidations of accounts, are the sole alterations and deviation from the Aldana contract, and confidently submitted to the court for approval and confirmation.

Remittances.—The next succeeding conducta for Tampico will leave hence in about a month; but it is very doubtful if any amount can be spared from my ways and means, as a remittance to the court on that occasion, owing to the increasing current expenditure, arising from the new mines and hacienda recently added to the district operations.

J. N. SHOOLBRED.

Report on the State of the Workings in the Mines of Rayas and Aldana.

Mines of Rayas.—All those portions of the mine worked by buscones continue poor. Owing to the small remuneration they obtain, numbers have gone to other mines, and in order to keep up the sales even to their present low level, it has been necessary to give access to the few remaining, for short intervals, to portions of the mine where they cannot be permanently employed.

Frente de Santo Toribio.—This is a continuation of the original frente (end) of that name, with a slight deviation in direction, and is worked as a destajo (tutwork); 4·61 varas have been driven during the month. There is some ore just appearing in the extreme end.

Cross-cut of Santo Toribio.—This is commenced near the same point as the above, and directed towards the lower wall of the vein as a general speculation, but with the more immediate object of examination of that division of the vein formed in San Luis, about 50 varas to the north-west. The work has advanced in the month 5·83 varas, without any material change.

Santo Toribio Workings.—The workings above the level of Santo Toribio, which were originally contra cielos (rises), having been converted into frentes (ends) to the south-east, are about as much advanced in that direction as the level above named. Their relative height above the same is—Frente de Jesus, 15 varas; Frente de Purissima, 28 varas. There has been in both these workings a gradual improvement in the quality of the ore, which is found in rich but narrow threads. Owing to this ramification, the quantity produced is comparatively small.

Poso of Santo Toribio.—This working is the deepest point on the dip of the vein, and has lately improved, and is now producing a small quantity of rich ore. The water was troublesome and expensive, particularly during the rains, in this working; this evil we hope to remedy. The water has been intercepted and detained at a point about two-thirds down the pozo, and preparations are nearly completed to raise it from thence to the level by pumps.

Frente de San Vicente.—This frente is opened in the north-west side of the pozo of Santo Toribio, and about half-way down, the extreme end being at present about 25 varas distant therefrom. Heretofore the vein has not inclined to make ores in this direction, therefore the improvement which has been observed is the more interesting. In the remaining workings, and not being of speculative interest, there has been no change worthy of remark. During the month five barmen have been employed (with the exception of occasional scarcity of workmen by night), and the ore remitted to the hacienda in the five weeks amounts to 3068 cargas.

Mine of Aldana, April 7.—Having concluded the woodwork of the shaft and the horse-whim, the sinking was resumed under a contract with the workmen for 80 varas, strong inducement being offered them for the rapid performance of the work, and owing to this, and the favourable nature of the rock, 25·11 varas were sunk in five weeks, making the entire depth of shaft, up to the 4th of April, 40·08 varas. Different small threads, or veins, have been cut, containing a small portion of silver and more gold, which are mentioned here merely as an indication that we are not working in barren ground. The indispensable surface works will probably soon be concluded.—S. P. PARKMAN.

NATIONAL BRAZILIAN MINING ASSOCIATION.

A general meeting of shareholders was held at the London Tavern, Bishopsgate-street, yesterday.—EDWARD OXENFORD, Esq., in the chair.

Mr. HAMILTON (a director) read the advertisement convening the meeting, when the CHAIRMAN read the following

DIRECTORS' REPORT.

The affairs of this association have been so recently investigated and reported upon by a committee of your own appointing, that the directors feel themselves absolved from the duty of entering into many details, which they should otherwise have brought before you. It may, however, be conducive to the formation of a correct judgment of the present position and future prospects of the Cocaes Mine, to revert briefly to its history, since it came into the hands of this association. By the first report of the mine captains, dated 5th June, 1834, it was unanimously resolved to continue an adit which had been begun and prosecuted by the Brazilians since the year 1830, for the purpose of intersecting (to use their own words) "the known rich veins of Arul Clavo, Candonga, Bandeira, and Terra Cahida."

The adit was accordingly driven in the year 1835; the stratum in which these veins are stated to be imbedded was passed through, but, unfortunately, without examination: the ore extracted from it was thrown away—piled up—a disregarded heap of rubbish, till the end of the year 1845, stones bearing gold were then casually found among the mass; a scrutiny took place—the miners' error was discovered, and the works now in progress were commenced.

It is to be remarked, that from the year 1835 to 1845 inclusive, being the period during which the auriferous stratum remained unworked, the weight of gold raised from that part of the Cocaes Mine was only Mks. 33 7 4 67, the value being about 850*l.*, while, for the three succeeding years, it yielded as follows:—

1846	£ 892 14 1
1847	4732 13 10
1848	5233 5 3

What results might have been obtained if the auriferous stratum had been constantly worked since the year 1835, when it was first met with—what veins might have been intersected—what discoveries might have been made by an association then commanding a very large mining force, and furnished with great pecuniary means—it is impossible to say; but while experience has proved that this same stratum, in the ordinary course of produce, without any discovery whatever, although worked with diminished means and a crippled force, has yielded for two successive years about 5000*l.* per annum, it surely is not unreasonable to infer, that if it had been worked when the association was in the amplitude of its power and resources, it not only would never have been reduced to its present prostrate condition, but that no call above 15*l.* per share would have ever been made upon the shareholders.

Having thus sketched in as brief and clear a manner as they were able, such particulars regarding the former works at the Cocaes Mines as they considered requisite for the elucidation of those now in progress, the directors proceed to state the object more especially aimed at in the mining operations now carrying on. Imbedded in the auriferous stratum already mentioned are two small gold veins, and these, underlaying at different angles of inclination, must, without some subterranean disturbance which no one can foresee, come into contact at a given point, when, according to all mining experience, a rich deposit of gold may confidently be expected. The mine captains are of opinion that the junction of these two small veins will form, or lead into one of the main veins of that section of the Cocaes Mines, called Carvaco, and they expect that this junction will take place between the 12 and 16 fm. level, below Irving's shaft. Mr. Munday, the company's mine surveyor, was, in consequence, specially ordered by the board to make his own survey and plan of the works in question, and it will be observed, by a reference to his section (recently received and placed immediately on the counter for the inspection of the shareholders), that his measurements agree, within a trifle, with the calculations of the mine captains. By still more recent accounts, the approximation of these two veins had become more rapid and decided; the ground had softened, and the gold produce, although very fluctuating, was increasing. From these indications, the mine captains, and those on the spot, best able to form a correct judgement on the subject, are expecting shortly such an augmentation in the gold returns, as will in some degree correspond to the former high character of the Cocaes Mine.

At the Cuiaba Mine every effort has been made to extend the works, and to augment the supply of ore for the stamps; now passes for the exit of the ore have been opened, others are now opening, and the directors confidently expect a further large increase in the gold returns from this mine, notwithstanding the produce of the past year shows an advance of 75 per cent. upon that of the preceding one—that of 1847 being 2038*l.* 3s. 8d.; that of 1848 being 3578*l.* 0s. 9d.

The account current which accompanies this report will show the receipts and payments from the 30th June to the 31st of December of the past year, and the directors cannot but deeply deplore that so few shareholders should have availed themselves of the opportunity presented to them by the votes of the meeting of the 28th August last, of regaining their position by the payment of the over due instalments on their shares.

The directors much regret to state that their esteemed friend and colleague, Mr. Hartley, has signified his intention of retiring from the direction, as he cannot devote to his duties the requisite attention, in consequence of the decease of his partner, the late Mr. Carleton.

In conclusion, the directors beg to state that they have fairly laid before you the substance of the past history of the Cocaes Mine, as well as that of the captains' report of the present condition and future prospects of the association. The directors have too great a stake to try to deceive themselves, they hold their characters too high to try to deceive you. They have endeavoured to place clearly before you the facts, the inferences they leave to your own judgement.

From the statement of accounts which were read by Mr. GREENAWAY (one of the auditors), it appeared the expenses were—Salaries and miners' wages in Brazil, 3722*l.* 14s. 4d.; ditto owing previous to June, 1848, 1657*l.* 4s. 9d.; miners' wages paid in England, 110*l.* 17s. 8d.; ditto owing previous, 194*l.* 8s. 1d.; bill drawn by Mr. Collet at Rio, 150*l.*; 50 shares to Mr. Collet, at 4*l.*, 200*l.*; interest, meetings, printing, stationery, and sundries, 446*l.* 13s. 5d.; London management and offices, 500*l.* = 6981*l.* 18s. 3d.—By balance, June, 1848, 106*l.* 1s. 3d.; advances by directors, 1550*l.*; produce of gold, 4840*l.* 7s. 3d.; Mr. Collet's 53 shares, 200*l.*; 60 shares sold, 240*l.*; calls, 1889*l.* = 8825*l.* 8s. 6d.: showing balance in hand, 1843*l.* 10s. 3d.

Mr. GREENAWAY said, it being the first time he had the pleasure of meeting them since they had done him the honour to appoint him an auditor, he thought it but justice to the directors to state, that they had rendered every facility in examining the accounts. Every document required was given up; and whenever they, as auditors, were at a loss, the fullest explanation was given.—Mr. CORNEY (the other auditor) corroborated the statement of Mr. Greenaway. He said, although there was nothing very flattering in their present position, yet they were progressing, and were certainly nearer the object of their hopes than they had been. They were now just paying their expenses; and if the shareholders who had not paid would come forward, and put the directors in funds, they should be able to make more rapid progress.

A PROPRIETOR observed, that he understood that no further lenity was to have been given those who had not paid. He thought it desirable that the door should be left open for a short period to allow holders to avail themselves of the opportunity of saving their shares, if so disposed.

The CHAIRMAN explained, that the unmarked shares were, of course, irreclaimably forfeited; there were 2450 of the marked shares, out of 8563, on which there were unpaid calls amounting to 7128*l.*, and if it was the pleasure of the meeting, the directors would be most happy to receive any payments thereon.—After some conversation, however, it was thought the wisest plan to leave it to the discretion of the directors.

Mr. HARTLEY then rose and said, that, when he was elected a director in August last, he thought he should have been able to devote a considerable portion of time to its duties; but a few weeks only had elapsed when he lost his valued friend and partner, Mr. Carleton, when a much greater amount of duties connected with his business was thrown upon him, and compelled him reluctantly to resign. He could assure them, however, they would lose nothing from the want of his humble services, as Messrs. Oxenford and Hamilton paid their undivided attention to the interests of the association, and fully discharged every requisite duty.—The report and accounts were then unanimously adopted; Mr. Hartley's resignation as a director was accepted; and a vote of thanks having been passed to the chairman, the meeting separated.

GREAT POLGOOTH MINING COMPANY.

A meeting of adventurers was held, at their London offices, 38, New Broad-street, on Saturday, the 19th inst., when the finance committee laid their accounts for the last two months before the adventurers, showing—

Dr.—Paid in April and May, cost of February and March—Wages and incidentals	£2840	18	10
Carriage and horse work	335	19	6
Coals	456	0	0
Materials and stores	660	0	0
Rates, rents, dues, &c.	275	0	0
Total	£4556	18	4
Cr.—Tin sold in April and May (123 tons 18 cwts. 3 qrs. 22 lbs.)	£5736	14	2
Copper (8 tons 17 cwts.)	90	14	9
Old stores	19	18	4
Total	£5847	7	3
Showing profit of	£1290	8s.	11d.

A dividend of 4*l.* 10s. per share was declared, leaving 138*l.* 8s. 11d. to credit of profit account for the July meeting, with assurance of continued progressive improvement in the mine.

GREAT ROUGH TOR CONSOLS MINING COMPANY.

The two-monthly meeting of shareholders was held at the offices, Threadneedle-street, on Wednesday, the 23d inst.

The minutes of the two-monthly meeting, held the 12th March, and the minutes of the special general meeting, held the 24th of March, were read and approved.—The mine's cost-sheet for the month of February, amounting to 241*l.* 12s. 7d., and that for the month of March, amounting to 265*l.* 15s. 4d., and the purser's cash accounts, showing a balance of 44*l.* 6s. 8d. in favour of the mines, were examined and passed.—Liabilities, to be provided for before the next meeting, were estimated at 500*l.*—A call of 1*l.* per share was made, payable on or before the 18th June.—The following report, from Mr. Josiah H. Hitchins, was read:—

I have this day inspected the several underground points of exploration in this mine, and I beg to hand you the following particulars:—The deepest point is at Morris's engine-shaft, which is now in all from surface 55 fms., having the lode in the present bottom thereof, and where also the lode is being cross-cut both north and south, for knowing as to its entire width and correct general character and quality. The north drivage is advanced 2½ feet only from shaft, the lode so far having disappointed us, showing mostly coarse uncongenial capel and spar, with here and there in places only a little of copper ore, the black oxide, intermixed with too much mundic (sulphuret of iron) to be worth saving. This drivage is intended to be continued north beyond the present lode, on the point of intersection of another lode, which was gone through in the course of sinking Morris's shaft, as at the time was duly advised. This lode showed a good deal of strong ferruginous quartz and a little native copper, being altogether sufficiently kindly to induce its being seen and explored at the present increased depth of said shaft. At the bottom south point of cutting through the lode there is no better showing as yet; but this drivage also is only advanced about 4½ feet from shaft, and there is, consequently, yet much of this large lode to get through in both directions, until which is done there is no decisive opinion or recommendation to be submitted, as in regard to the future mode of scale of further exploration to be most judiciously adopted. As you are aware, the lode in this part of the mine, in the 30 fm. level cross-cut over, is full 4 fms. in width. In the 30 fm. level so termed (taking it from the shallow adit), although nearly 40 fms. in all from grass, the drivages have been 21 fms. east and 13 fms. west from the said shaft, in which the leading part of the lode on the hanging wall has been carried. It has not, however, in either drivage, been profitably productive, although in places, and more particularly in the eastern drivage for some few fathoms in length, it shows a very encouraging general appearance, the leading part, as here referred to, being about 2 ft. wide, composed of strong ferruginous quartz, slightly intermixed with black and red oxide of copper, the preponderating portion being mundic, altogether not equal to pay for working. In the present 30 eastern end there is easy granite, and the portion of the leader carrying is of similar general character as just described; and it is fairly to be stated that, at this point of development, there is enough of inducement presented to justify its being continued with all possible force. The western drivage, in this level has been thought proper to be suspended, the general character of the lode and ground in the present end offering nothing like the inducement of the eastern one, and it being of more importance that the men should be, as they now are, engaged in the bottom drivage, north of Morris's shaft. Turning to the eastern part of the mine, it only remains, in conclusion, to be observed that Thomas's engine-shaft has been completed to the 30 fm. level (so termed, although in all nearly 36 fms. from surface), and also a cross-cut driven out south 18 fms. to the lode which has been cut into about 12 feet, and so far without any appearance of the south wall, being for the most part composed of hard, and altogether so far to be considered as no other than uncongenial, capel and spar, with but a little of mundic and a few spots of copper ore. Looking at the foregoing circumstances, it is not deemed judicious to advise any deeper exploratory trials until the lode shall have been cut through, as now in course of doing in the bottom level drivages at Morris's shaft, and the other north lode seen by proposed further extension of same level, and also the lode cut through in the bottom level cross-cut at Thomas's shaft, and extended upon for some fathoms at least at such several points. I hope that these operations will shortly lead to improved prospects, and eventually to permanent success.

KIRKCUDBRIGHTSHIRE MINING COMPANY.

The quarterly meeting of adventurers was held at the offices, on the 15th inst., when a statement of accounts was produced, showing—

By call of 6s. per share, made 13th February	£ 236	2	0
Sale of lead ore—180 tons 6 cwts.	1679	10	11
Total	£1915	12	11
Balance against the mine 13th February	£ 539	9	0
Mine cost, February, March, and April	1215	8	10
Total	£1754	17	10
Balance in favour of mine	£160	15s.	1d.

The following report, from Messrs. R. Williams and Edward Bawden, was read to the meeting:—

Cairnsmore, May 12.—In sending you again our quarterly report, we would notice that the principal objects mentioned in that of February last, were—To sink Stewart's shaft, and to extend the 40 fm. level westward under the flat ground. In carrying out these views, we have sunk the shaft about 9 fms., and hope to complete the 12 fm. (as proposed) by the end of the present month. We have also driven the 40 west 21 fms., and in that distance it has much improved in its appearance. We have driven the 20 fm. level near 14 fms. east, and holed it (by rising 4 fms.) to Crouch's shaft, by which means we have effected a much more perfect ventilation of the mine. We have driven the 50 fm. level 13 fms. east of Stewart's, and have just reached the bearing rock discovered in the 30 fm. level above. The 50 end, west of Keith's, also is driven about 7 fms., in which we have passed through a short bunch of ore, yielding near a ton to the fathom. As we had an orey lode in the 30 east for above 20 fms., our object will be to extend the 50 fm. level through that ground, to prove its value. We shall also have to complete Stewart's shaft to the 62 fm. level, and extend that level east and west. Also the 40 and 50 fm. levels will have to be continued westward, and Keith's shaft sunk to the 62 fm. level. We have spent about 70 fms. of ground in the past quarter, principally through a very kindly and encouraging lode, and our tribute ground has turned out well. We have also raised 156 tons 15 cwts. 1 qr. of lead ore, which is a small increase on the preceding quarter.

MENDIP HILLS MINES COMPANY.

A special general meeting of shareholders was held at the offices of the company, Finsbury-square, on Tuesday last, the 22d inst.,

E. H. BARWELL, Esq., in the chair.

The notice convening the meeting having been read, Mr. STAINSBY read the following directors' report:—

The object of calling you together specially on this occasion, is chiefly to take your opinion as to the disposal of 600 shares which have been forfeited, an application having been made for their restitution, on payment of the calls due and interest of the same. The directors lost no time, after your sanction of the lease from Mr. Somers of the Ubley and Blackmoor properties, to make the necessary arrangements for working them effectually; and as it was necessary to secure the best supply of water, the directors engaged the services of Mr. John Walker, who has been accustomed to undertake very large operations of much difficulty in connection with water, and has surmounted them with much satisfaction, and who has personally given his best attention to the subject, and proposed plans for the effectual draining of the ground, and also for applying all the water so drained to the new dressing floors, which have been prepared under his direction and supervision, a portion of which are already in operation. Mr. Walker's report will be read to you.

The directors have consulted Mr. Johnson, who concurs with them in opinion that the proper course of proceeding, in order to carry out the most advantageous mode of working, is that which has been approved by the directors—viz., the erection of an 8-horse steam-engine, to command Ubley and Blackmoor, for the purpose of raising the material out of the valley to the washing floors, and also for returning the water to the washing strakes, the cost of which engine will not exceed 300*l.*, exclusive of fixing. To erect a workshop and sawpit in the valley, also between Ubley and Blackmoor, to command both, the doors and windows of the present workshops on the hill can be made available here, and the present shops converted into two tenements, one of which will be occupied by the engineman, who, it is desirable, should live on the spot.

The directors have, on a former occasion, referred you to the production of slimes, which are a valuable adjunct to this property: and they have ordered the erection of a reverberatory furnace for their reduction, which they hope will be speedily at work.

The directors feel a pleasure in congratulating you on the decidedly improved prospects of this undertaking, and hope to be enabled, at no distant period, to make returns satisfactory and encouraging for the profitable development of the property.

The accounts from the last meeting, embracing five months, will be submitted to you, which show a balance in favour of nearly 1200*l.*

Mr. Walker's report was then read, which entered into a lengthened detail of the arrangement of the various buildings, stamps, washing and dressing-floors, the means adopted for collecting and husbanding the water, so necessary for the slag and slime department, and the general position of the several works, which Mr. Walker explained by a diagram, but are not of general interest.

From the statement of accounts for five months, ending April last, it appeared that the balance from last account was 705*l.* 2s. 8d.; calls, 1250*l.*; lead sold, 148*l.* 14s. 4d. = 2103*l.* 17s.—By cost, 645*l.* 8s. 6d.; directors, 125*l.*; London expenses, 100*l.*; interest and sundries, 34*l.* 15s. 5d.—leaving a balance in favour of the company of 1198*l.* 13s. 1d.; of which, however, about 800*l.* has to be paid on the last call.

The CHAIRMAN then called the attention of the meeting to the 600 shares which had been absolutely forfeited; but the directors had been applied to by Capt. Coape to restore them on payment of calls and interest, and also 150 shares forfeited previously, making 750; he said the directors had the power immediately to dispose of them, but wished to have the opinion of the shareholders.

The shareholders present were divided on the subject, some wishing them to be divided *pro rata* among the shareholders, and others thinking the most honest and safe way was to sell them by auction; and on a show of hands there was a small majority for sale by auction; but on ascertaining the interest held, it appeared the minority held the largest number of shares. It was, therefore, unanimously left to the decision of the directors, when Mr. Fowler, one of them, who was absent, again came to town.—Several resolutions were passed, for which see our advertising columns; and a vote of thanks having been passed to the chairman, the meeting broke up.

RUNNAFORD COOMBE MINING COMPANY.

A meeting of shareholders was held at the Black Eagle, Woolwich, on Wednesday, the 23d inst. Mr. CANHAN in the chair.

Mr. MANUEL (the secretary) laid a statement of accounts before the meeting, showing a balance in favour of the adventurers of 170*l.* 4s. 9d. The subjoined report from Capt. Channal (the agent) was then read:—

In presenting you my report, it gives me pleasure to be able to state that the mine is looking well. The lode in the adit level, going east, is from 4 to 5 ft. wide, underlaying 4 ft. in the fathom, bearing to the south of east 10°; for the last 8 fms. the lode has been unproductive, but at present the lode in the end is much improved, and I believe we shall soon have a good lode of tin in the end, from the general character of the ground; the western stopes in the back of this level are looking well; the lode is 5 ft. wide, producing good work for tin—the ground easy for stoping, at 2*l.* per fm., by four men; the eastern stopes in the back of this level are looking favourable, the lode is 2 ft. wide, yielding fair quantities of tin ground—favourable for stoping, at 1*l.* 12s. 6d. per fathom, by four men. The cross-cut driving south, by six men, at 4*l.* per fathom, to unwater Morris's shaft, has been driven since the last general meeting 12 fms., and I hope in the course of a fortnight that we shall hole to the shaft, and let the water off, so that we may resume sinking the shaft to the 10 fm. level, where there is every indication of an abundance of tin. We sampled on Wednesday, the 16th of May, a parcel of ores, computed 6½ tons, and I have no doubt, from the present appearance of the lode in the back of the level, and the general improvement of the lode in the end, that at our next sampling the quantity will be as much as at the last.

Resolutions were passed confirming the minutes of the last general meeting; that the report now read be received, and the purser's account passed; that Mr. West's specification be received, and that he be required to erect the steam-engine with the least possible delay; that the 6½ tons of tin now sampled be sold to the highest bidder, 47*l.* 17s. 6d. being already offered. A committee of general management, composed of the following gentlemen, was then nominated:—Messrs. Canhan, Henderson, Dinmore, Smith, Robinson, Holmes, Phenix, Kilpatrick, Hughes, Harkness, and Michell.

TREVISKEY AND BARRIER.

At the bi-monthly meeting, the accounts were examined and passed, showing:

TREVISKEY.—Amount of ore sold, less dues (216*l.* 14s. 1d.) 2383*l.* 15s. 7d.; ditto materials, 13s. 8s. 8d. = 2397*l.* 4s. 3d. By labour cost, Feb. and March, 719*l.* 2s. 1d.; tribute on ore, 539*l.* 15s. 6d.; merchants' bills, 348*l.* 10s.; Tresavean adventurers engine cost, 218*l.* 9s. 3d.; leaving profit, 571*l.* 6s. 7d.: to which add balance end of Jan., 12*l.* 5s. 1d. = 583*l.* 11s. 8d.; from which deduct dividend, 540*l.*, leaves balance in hand, 43*l.* 11s. 8d.

The following report was then read to the meeting:—

In Michael's shaft, sinking 6½ fms. below the 260 fm. level, the lode is 1 foot wide, but unproductive. In the 260 fm. level, driving east of Michael's shaft, the lode is also 1 ft. wide, and unproductive. In the 248 fm. level, driving 48 fms. east of the above-named shaft, the lode is 15 in. wide, producing 2 tons of ore per fm. In the 236, driving 35 fms. east of the above-named shaft, the lode is 3 ft. wide, producing 6 tons of ore per fm. In the 224, driving 29 fms. east of the shaft, the lode is 9 in. wide, but unproductive. The winze in the 248 fm. level is communicated to the 260; the rise in the 248, east of the shaft, is yielding 5 tons of ore per fm. At Williams's old sump-shaft the north lode, in the 40 fm. level, is unproductive; we have not yet intersected any lode in the cross-cut driving south. We sampled 330 tons of ore, and have 100 tons more to sample, which we are unable to bring to the surface in time for the usual sampling, in consequence of an accident to the whim-engine.

BARRIER.—To Labour cost, Feb. and March, 67*l.* 2s. 11d.; tribute on ore, 4*l.* 11s. 11d.; Tresavean adventurers' engine cost, 4*l.* 19s. 9d.; Treviskey adventurers' materials, 13*l.* 0s. 5d.; purser's salary, &c., 2*l.* 10s. 6d.; income tax, 18*l.* 16s. 10d. = 111*l.* 2s. 4d.—By ores sold, less dues, 13s. 7d., 8*l.* 16s. 11.: showing loss, 102*l.* 5s 5d., from which deduct amount in hand at the end of Jan., 56*l.* 8s. 11d.: leaves balance against the mine, 45*l.* 16s. 6d.

NORTH ROSKEAR.—The statement of accounts to the 16th May shows—By ore sold, 4058*l.* 18s. 8d.—Mine cost for February and March, 3771*l.* 9s. 9d.: showing profit of 287*l.* 8s. 11d.; in bankers' hands in January, 1772*l.* 5s. 7d.: total balance now in hand, 2059*l.* 14s. 6d.

MINING LAW.—In the Vice-Warden's Court, Cornwall, a few days since, the following case was tried, which contained some points of public interest.—The action was brought to recover the sum of 13*l.* 2s., for goods supplied by Mr. W. Richards to Wheal Louisa Mine, in St. Stephens, in which mine defendant (Mr. J. L. Luscombe) was alleged to be a shareholder. Evidence was given of the supplies to the mine, and Mr. Richard Down, of Torpoint, the purser, was called on behalf of plaintiff, to prove defendant a shareholder. Mr. R. Edmonds, of Plymouth, for defendant, objected to the reception of the cost-book as evidence, in consequence of its not being stamped.—Mr. Bishop, for plaintiff, argued that it was unnecessary, and cited several cases to that effect.—The Judge overruled the objection, and received the cost-book in evidence.—Mr. Edmonds then contended that the managers of the mine had no implied authority to contract debts for the working of the mine, and cited Vice *v.* Lady Anson, and Ricketts *v.* Bennetts, in support of his view.—Mr. Bishop, contra, cited Tredwen *v.* Bourne, and other cases, overruling Vice *v.* Lady Anson, and showed the distinction between the present case and the case of Ricketts *v.* Bennetts, which latter case only decided that the directors of a mine had no implied authority to borrow money, and thereby to pledge the credit of their co-adventurers.—The Judge having also overruled this objection, it was contended that defendant had ceased to be a shareholder at the time the goods were supplied. Proof, however, having been given to the contrary, judgment was given for plaintiff for the amount claimed.

A NEW MINING INVESTMENT.

SIR,—In the *Mining Journal* of May 19th, there is given a copy of the balance-sheet of the Imperial Brazilian Mining Association, in which figures a singular *item*—"loans and investments in Brazil." It is said this loan was made by the chief commissioner, under the following extraordinary circumstances:—A Capt. Stanaway, being in charge of the mining estate of Cata Preta, in 1845, found a black slave boy, on a Sunday afternoon, too drunk to either speak or stand; he assisted personally in tying him to a post, so tightly that, after remaining 14 or 15 hours, through the stoppage of the circulation, gangrene had commenced; he was removed to Gongo Soco, and amputation followed. The boy being hired, the owner commenced legal proceedings; he was made free, and for some time fed at the company's expense—Capt. Stanaway being at once summarily dismissed. As soon as the company had taken possession of Bananal, the chief commissioner *kindly* lent to this Capt. Stanaway, and a brother of the then, and now present, chief mining captain, the sum of 500*l.* sterling, company's funds, to open a grog shop and grocery store in close proximity to the mine—in fact, the building which was nearest to it. Inferentially the results need no comment, as regards its effects on black and white workmen, as how could the chief mining captain complain of any person being, through drunkenness, unable to work properly, seeing his brother was immediately interested in promoting the sale of liquor of all descriptions, from new rum at 2d. per bottle, up to champagne for the white workpeople on extra occasions. The directors have tacitly, though unthinkingly, sanctioned a most flagrant act, and have, as might have been expected, when the fact became well known, reaped much odium in consequence; and as the surgeon who performed the amputation is now in London, the facts of the case may be easily investigated.—VOX CLAMANT EN DESERTO: *May* 24.

TRANSFER OF SHARES IN MINES—ARE STAMPS REQUISITE?

SIR,—In your editorial observations, in your last Number, as to stamps not being requisite on the transfer of shares in mines worked upon the Cost-book System, I am afraid you rather treated the question as your correspondent wished than as it really is—a legal one. The test I would propose for solving it is, whether, in the event of having to give in evidence, in the superior courts, a transfer of this nature, it would be receivable if objected to, without being stamped as an agreement, under which, in their usual form, such an instrument would be ranked. It has been held, that a transfer of mining shares does not come within the exception in the Stamp Act of 55 Geo. III., cap. 184, "as of, or relating to, the sale of goods, wares, or merchandise;" and if any of your correspondents can refer to a reported case where it has been decided that an unstamped transfer was properly receivable in evidence, he would dispose of the question, and confer a favour on other of your readers besides

May 24. W. H. G.

THE STEAM-BOILER EXPLOSION AT WHEAL TRESCOLL.

SIR,—In looking over the list of accidents in last week's Journal, I find one wherein a miner, named Williams, lost his life by the bursting of the boiler at Wheal Trescoll Mine. Now, this occurs so soon after the one at Beam Mine, which is adjoining, that I think some inquiry more than a local jury can make ought to be instituted. My attention has been, moreover, attracted by an account of the accident published in the *West Briton*, wherein it is stated that a Mr. Webb, who appears to be engineer, captain, manager, &c., of the mine, on being asked by the coroner, says the only way that he could account for the accident is, *that some gas might have got into the tube*, which by some means ignited, and caused the explosion. The engineer having thus satisfied the minds of the jury as to the cause, the opinions of several miners were then asked, all of whom stated *they* considered the boiler a good one, and that they never apprehended any danger. The jury were now perfectly satisfied, and a verdict of "Accidental Death" was accordingly recorded. Now, this might do very well for a Luxulion jury, but, I beg to ask, would such absurd nonsense be allowed to pass with a London jury? Certainly not. In the case of the explosion of the *Cricket* steam-boat, the inquiry was very differently conducted. Here the maker of the engine and boiler, and several scientific men, were called in and examined, whereby something like a reasonable cause was assigned. But in this matter nothing of the sort is done; in fact, the whole savours so much of a hushed-up job, that I think some very culpable neglect would have been discovered, had the thing been properly investigated. There is, moreover, a rumour current, that the accident has for a long time been anticipated; if there is any truth in such, I think the public, and more particularly those of us who hold mining property, ought not to allow the life of a fellow creature to be thus sacrificed with impunity. A MINE PROPRIETOR.

May 24.

THE BLACK CRAIG MINE.

SIR,—A "Friend to Mining" says, Welsh's shaft is 75 fms. in depth, and 80 fms. from the engine-shaft; and that a line of rods, 80 fms. in length, from the engine-shaft in the bottom level east, towards Welsh's, was used for the purpose of sinking convenient to Welsh's, to unwater some ore ground; and that 30 fms. east and west of engine-shaft, the lode has changed its character, and is unproductive.

If Welsh's is 75 fms. in depth, and only 40 fms. of an adit, the 25 fm., or bottom level, certainly makes 65 fms., leaving this shaft 10 fms. under the bottom level; and if the two shafts were only 80 fms. distance, and the line of rods was 80 fms. in length, and at the end of these rods a shaft, or winze, put down with pumps to unwater ore ground, certainly this would not be a speedy and economical method of working, when they had little or no distance to Welsh's, a shaft already down 10 fms., where they could put down their lift of pumps, and immediately commence a 35 fm. level westward, in or under the ore ground, leaving 9 fms. of this ground high and dry.

Welsh's is to adit 40 fms., and 1 fm. under the 25 fm. level—total 66 fms.; distance betwixt the two shafts about 75 fms. A winze is sunk some 2 or 3 fms. under the bottom level, 10 or 12 fms. west of Welsh's, in a bunch of ore: this ore being pretty good in sinking, and the water getting over much, the agent thought it well to give it a further trial in depth with pumps. A set of wooden pumps were got down, and also the rods in the 25 fm. level. But before they got them into working, the proprietor stopped all operations, leaving all the materials under water.

I allow this bunch of ore is the best in sight at the 35 fm. level; yet there are several places worked for ore on tutwork in the roof of this level, and ore is yet to be found under equally good, even convenient to the engine-shaft. There is no level west of this shaft under the adit. The adit is extended above 150 fms. east of Welsh's, where the lode is split up into branches, and where several tons of ore were raised—this being the top of the hill. On the other side (eastward in the valley) there is an adit driven westward, upwards of 100 fms., on the same lode, where some hundreds of tons of ore have been taken away. This is convenient to the Cairnsmore sett, where the agent took his degrees for finding the Cairnsmore lode. This is where I would recommend a water-wheel to be fixed, 20 ft. high, 6 ft. breast, and put down a shaft, which is a fair speculation, seeing they have a very kindly lode going west in Cairnsmore. I know Welsh's is a good shaft for either pumping or drawing, but to serve for both is past an ingenious pitman's calculation. This shaft, above adit, is 5½ ft. by 3½ ft.; under adit, 6 ft. by 4 ft.

"A Friend to Mining," I conclude, is writing you simply from hearsay, as I could not form any idea that he is referring to this mine, had he not given the name.—A MINER: *Newton Stewart, May* 8.

MINING PROSPECTS AND MANAGEMENT IN THE CARADON DISTRICT.

SIR,—I am a constant reader of your valuable Journal, and I find its columns to contain many invaluable and instructive things to me as a miner. Being a correspondent for some years past, I must beg that you will favour me with a small space in your next week's paper. In perusing your last columns, I was much surprised at the remarks made by a correspondent of the *Plymouth Journal*, respecting the prospects and the management of South Caradon, and the mines in this neighbourhood. Let me tell that individual, that my opinion is, he cannot have any true knowledge of the management or the prospects of either of the mines in this district. His first paragraph was Caradon Copper Mine, in which he says, that there are only three lodes discovered. I can assure him that eight very regular lodes have been discovered in that sett. He goes on to say, that the prospects of the mine cannot be said to be encouraging; this I think cannot be the opinion of any practical miner, who knows the character of the lodes. I have no interest either in the working of this mine or stopping it, and am not on the most friendly terms with the captain; yet, in justice to the public, I must say, that my opinion is there is not a more promising speculation in the two counties.

His next observation was on Caradon United. He scruples not to say, that there is no lode to be found in this sett. This I confidently deny—having inspected the mine all through underground. I saw two regular lodes, one very large, the other small, and three more at surface, which, if explored, may prove as productive as those in the neighbouring mines. The same gentleman goes on to complain of the management of South Caradon. He says, that the agents are now compelled to do that which ought to have been done a long time since—increase their tutwork, and drive north, to intersect the north lodes that have been so productive in West Caradon. Let me tell that gentleman, be he who he may, that this has been done for years back; unfortunately for the shareholders, but little profits are likely to be the result from the lodes in this part of the mine. The south side of the sett is the most productive, as from what I have seen, and so far as I can trace the run of ore ground, or the shoots of copper, it is south of east, and north of west; this accounts for West Caradon being so very rich on their north lodes; whilst South Caradon is so on the south.

I have been acquainted with most of the operations that have been carried on at South Caradon for the last 10 years, and have oftentimes remarked that I never saw poor levels so perseveringly wrought as those in South Caradon. He says that the principal operations have hitherto been confined to the main

and Clymo lodes; this is an error, for hundreds of fathoms have been driven on other lodes, Kitto's especially, which is a good productive lode, and has turned out a quantity of very rich copper ore; many other lodes have been driven on for scores of fathoms. I have no interest in this mine, nor the manager, Capt. James Clymo, but this I say, that I have known him, his brother, and father for upwards of 20 years, and there cannot be better practical men in the two counties.—JOHN SEYMOUR: *Caradon Wheal Hooper, May* 23.

EAST WHEAL CROFTY.—At a meeting of adventurers, held at the mine, on the 22d inst., the following statement of accounts was adopted:—By ores sold 5th April (less dues, 143*l.* 1s. 3d.), 2432*l.* 3s. 9d.; by tin and arsenic (less dues, 17*l.* 13s. 7d.), 300*l.* 12s. 11d.; by sundry receipts, 149*l.* 16s. 1d.= 2882*l.* 12s. 9d.—To cost for March and April, 2660*l.* 7s. 8d.—Profit, 222*l.* 5s. 1d.; in hand end February, 2127*l.* 15s. 1d.=2350*l.* 0s. 2d.—Dividend, 470*l.*: balance now in hand, 1808*l.* 2s.

WHEAL ROCKS MINE.—In reference to a paragraph in last week's Journal, we have been requested by Capt. T. Bell to state, that he has no intention of undertaking the management of the Rocks, or any other mine—the Great Polgooth satisfactorily employing his full time and energies.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

CAIRNSMORE.—I have great pleasure in reporting the satisfactory state of affairs in this district—a cargo of lead has recently been shipped from Cairnsmore, and I understand the two western levels continue to look well. In Black Craig considerable improvement has taken place, and bargains have been set at low tribute; 43½ tons of ore have been shipped, and 50 tons will follow in the course of two or three weeks. I understand the spirited adventurers are about to erect an engine forthwith, in order to draw out the water and prosecute the lower levels with vigour. The rapid development of the resources of this mine is highly creditable to the management; I have it, on good authority, they are already working at considerable profit.

CARADON WHEAL HOOPER.—A decided and important improvement has taken place in this mine in driving the 58 fm. south on Tuesday last; the men cut into a branch of copper, about 6 in. wide, underlaying south 2½ ft. in a fathom; this branch will fall in with Pearse's lode a few fathoms below the present level, and no doubt will be a feeder for the lode. How encouraging it must be to the shareholders to hear of this after some saying that they would live no longer if ever there was another stone of copper broken in the mine, especially as those men pretend to know all. I am happy to inform the shareholders, that there is a large stream of water issuing from the ground inside of this branch, which shows that the lode cannot be far off.

LLWYNMALEES.—I find that the London shaft is now down 6 fms. 5 ft. under the 14 fm. level, in a fine strong lode, with good stones of ore for the width of the shaft, and through the length of it. The 14 fm. level continues west in sparry ground, with very strong ore in it. The two men driving on the north lode eastward have still some fine stones of ore, yet I am not sanguine of the lode eastward, but going west with this lode, I have no doubt, they will have a good mine. I can only add, that I have every confidence in the experience and judgment of the captain, Mr. Henry Francis, son of the well-known miner, Absalom Francis, and brother to Matthew Francis.

[From the *Plymouth Journal.*]

WHEAL CALSTOCK.—After many months of delay, occasioned by the necessity which existed for serving and posting the various notices prescribed by an old sett which had not expired, the adventurers have obtained from the Earl of Mount Edgcumbe, and Lord Ashburton, a grant of the lands lying to the east of that which they had previously obtained from the Duke of Cornwall, and which affords very great facility in carrying the ore to the waterside, and the shipment can now be effected at a very small cost. Add to this, the new grant renders available a very considerable water-power, and the 50-feet engine-wheel, and 40-feet wheel to work the grinder, which had been previously obtained, and will be shortly at work. Since our last report a very great improvement has taken place in the deep adit, the bunch of ore being larger, and the lode itself wider, by full 4 ft., than was expected from what we had before seen above this place. In the eastern level we are driving south by the side of the cross-course to cut the main lode; the ground is favourable and congenial.

BIRCH TOR AND VITIFER MINES.—Birch Tor lode, in the 10 fm. level, east of Prideaux's shaft, is let to drive, at 45s. per fm. for 6 fms.; the lode is producing a little tin, but is not rich. The 10 fm. level, west from this shaft, is let at 50s. per fm. for 5 fms.; the lode in this level has not been taken down, the men having been engaged in cutting a plat, and there was no place for the deposit of the stuff before the plat was cut, but this is now finished. The deep adit level, east of this shaft, is let at 6*l.* per fm.; the lode in the end is at present poor. There is no alteration in the shallow adit. In the north lode the cross-cut is still hard; the end is let for 2 fathoms, at 6*l.* per fathom. In the old Vitifer lode the sinking of Dunstan's shaft has been resumed under the 10 fathom level, and the sump is worth 25*l.* per fm.; the shaft is let for 8*l.* 10s. per fm. for 3 fathoms; the 10 fathom level, east of this shaft, is still disordered; but the lode is becoming more settled than it has before been since we passed the cross-course, the lode is producing good stones of tin, but they are not regular; the back and end are let together for two months, the price for driving 3 fms. in the end, 50s. per fm.; the stopes, 5s. in the former, with a standard of 36*l.*; the 10 fm. level, west from the shaft, is as good as it ever has been, but the ground by the side of the lode is very hard; the end and back are let together—the price for driving 2 fms. in the end is 3*l.* per fm., the stopes 5s. in 1*l.*, with a standard of 36*l.*

KIT HILL TIN MINE.—A new adit level has been commenced in the granite on the north side of the hill, which will intersect the main lodes 45 fms. from the surface. A pare of men are engaged in clearing up the shallow adit; all the attle left by the old miners in this level pay for stamping. It is intended to erect a steam-engine for the purpose of pumping and stamping. The carpenters' and smiths' shops are completed.

WHEAL FRANCO.—The 62 fm. end is still in a branch of the course.

PLYMOUTH WHEAL YEOLAND.—On the north lode the ore continues to hold down; the tributers are making fair wages at 10s. 6d. in 1*l.* On the south lode, in Odger's shaft, the lode continues to be worth full 15*l.* per fm, with every prospect of a continuance.

ACCIDENTS.

Explosion at the Werfa Colliery, near Aberdare.—From the evidence given before the coroner's jury, it appears that a previous explosion had occurred about a week before the fatal one noticed in our columns last week; and the fact was stated that a flue is in the course of construction to improve the ventilation, clearly indicating that this mine was known to be in a dangerous state, yet the men were allowed to continue their work, using naked candles, as if no such premonitions had been made. The proprietor was present at the inquest, and examined some of the witnesses, all of whom were in his employment. The evidence, under such circumstances, was of course exculpatory. The verdict of the jury was—"That the deceased, William Jones and David Clement, came by their death by accident, in consequence of an explosion of fire-damp in the Werfa Colliery; and the jury beg to recommend that the proprietor of the above colliery should keep, in future, a fireman to try the state of the works before the men enter." This is an additional proof, to those already accumulated, of the very small amount of protection which the law, as administered, affords to the hard-working collier, and speaks trumpet-tongued of the necessity there is for immediate parliamentary interference.

Tyrforest.—A dreadful accident occurred at the Lantwit Vardre Colliery, the property of Thos. Powell, Esq., by which nine lives were lost. There were, it appears, two pits worked together, so that the descending weight in one eased the engine in raising the coals in the other. Yesterday week the chain broke in one pit, and the engine had to sustain all the work in the other; and on Saturday morning three men were let down in safety, when seven or eight others applied to go down, when the engineer remonstrated; but the reckless men, against his wish, got in, and when about 10 yards down the engine lost all command over the weight, and they were all precipitated to the bottom—a depth of 100 yards the heavy chains falling on them. Seven were taken out dead and two have since died. One man came off with slight injuries, and he was a stranger who had gone to see the mine from curiosity. On Monday, an inquest was held on the bodies, when the jury almost immediately returned a verdict of "Accidental death." The names of the deceased are—J. Williams, aged 21, single; S. Rogers, 21, single; J. Williams, 16, single; T. Rees, 50, married; J. Rees, 10; J. Jones, 25; W. Jenkins, 46. The names of the other sufferers are as follows:—D. Hopkins. J. Jenkins, J. Jones, W. Jenkins, D. Williams, J. Griffiths, M. Rees, W. Williams, and T. Richards. We are glad to find that Mr. Powell has taken a deep interest in the melancholy affair, and has done all in his power to ascertain the cause of the accident. He has sent Mr. Griffiths, from Newport, Mr. Francis, from Cardiff, and two surveyors, to render all the assistance in their power to the sufferers and widows, and also with a view, if possible, of preventing a similar catastrophe. Not satisfied with this, he has promised the widows that permanent pecuniary support of which they were so suddenly deprived.

Tipton.—B. Sheldon was killed, and G. Downes seriously injured, by an explosion in an ironstone pit at Willingsworth. This "accident" arose from the men foolishly going to work in a part of the pit known to be foul, with naked candles, after being cautioned.

Kingswinford.—T. Marsh was killed while engaged loading a skip in Messrs. Oakes and Jones coal pit, by a quantity of coal falling from the roof.

Dudley.—John Reece was so dreadfully mutilated about his body by a fall of coal at Messrs. Bagnall and Jesson's colliery, that, notwithstanding prompt medical attention, the unfortunate man expired after two days' suffering.

Botallack Mine.—As two miners were descending, the ladder gave way, and they fell a depth of 7 fms., but fortunately escaped with little injury.

Bosweddon Mines, St. Just.—As John Angwin was working in one of the levels for tin, a quantity of earth suddenly fell from the side, and broke his neck across the timber on which he had stood; he was killed on the spot.

CORNISH STEAM-ENGINES.

The number of pumping-engines reported for the month of April is 25—the quantity of coals consumed being 2127 tons lifting, in the aggregate, 20,000,000 tons of water 10 fathoms high—the average duty of the whole is, therefore, 53,000,000 lbs. lifted 1 foot high by the consumption of a bushel of coal.—The following have exceeded the average:—

Mines.	Engines.	Length of stroke	Load in pounds.	Load per sq. inch on plat.	Strokes per min.	Consump. of coal in bus.	Million lbs. lifted 1 foot by consump. of 1 bush. coal	Lifted 1 ft. by 1 cwt. of coal.
Great Work..	Leeds's 60-in.	9·0	41,820	11·5	13·1	2146	56·0	67
West Treasury	40-inch	9·0	27,926	19·7	10·0	1632	55·3	66
East W. Crofty	Trevenson's 90	10·33	82,333	12·2	5·8	2308	57·7	68
East Pool	60-inch	9·75	38,124	11·0	5·0	1128	54·8	65
South Frances	75-inch.....	11·0	35,419	6·5	6·1	1464	54·4	65
United Mines	Taylor's 85-in.	11·0	97,621	15·6	6·0	3028	78·0	93
Ditto	Cardoza's 90-in.	9·0	100,682	13·8	7·6	4244	57·6	69
Ditto	Eldon's 30-inch	9·0	13,631	16·0	8·2	504	67·3	80
Ditto	Loam's 85-inch	10·0	67,947	11·6	7·7	3800	54·5	65
Ditto	Hocking's 85-in	10·0	97,817	14·4	7·5	4465	56·1	67
Tywarnhayle..	Gardiner's 80-in	10·0	72,302	11·5	6·9	3000	58·2	69
East Wh. Rose	Pearce, 70inch	10·0	[illegible]104	15·9	4·0	1548	69·6	83
Ditto	Michell's 70-in.	10·0	[illegible]171	15·9	3·8	1560	66·3	81

FLUCTUATIONS IN THE VALUE OF GOLD AND SILVER.

Professor HANCOCK read a paper, at a recent meeting of the Royal Dublin Society, on the general effects of the expected influx of gold from California, in which were described several curious instances of the fluctuations in the price of the precious metals. The professor stated, that there were three circumstances which rendered these inquiries of paramount importance:—The first was, that extraordinary changes in prices were produced in the 16th and 17th centuries by the discovery of the fruitful mines of America. Prices were nearly quadrupled in the short space of 70 years. The second was the total absence of any even the slightest provision in the past or present arrangements of British currency, to prevent changes in prices being produced to any extent by the fertility of gold mines, if their fertility were sufficient to effect such changes. The third circumstance which rendered the investigation one of the utmost importance, was one that did not appear to be appreciated by the public, the great evils which accrued to the community when the standard of value, either by natural causes or culpable neglect of Governments, became variable. There were three remarkable instances of this in the history of English currency. In the latter end of the reign of Henry VIII., and in that of Edward VI., the currency was debased, by altering the quantity of pure metal in the coin; a second disarrangement took place in the standard, from the discovery of the mines of silver and gold in South America; and the third instance was in the reigns of Charles II. and James II., when the coinage was neglected, and silver coins, more especially, were allowed to become seriously depreciated.

A statement of the evils caused by these fluctuations was laid before the Lords of the Treasury in 1695. It was stated—"that, in consequence of the defective state of the silver coin, great contentions daily arose among the King's subjects, in fairs, markets, shops, and other places throughout the kingdom, to the disturbance of the public peace; that many bargains and dealings were totally prevented and laid aside, which lessened trade in general; that persons, before they concluded any bargain, were necessitated first to settle the price or value of the very money they were to receive for their goods, and that they set a price on their goods accordingly; that these practices had been one great cause of the raising the price, not only of all merchandise, but of every article necessary for the sustenance of the common people, to their great grievance; and that the receipt and collection of public taxes, revenues, and debts, were thereby extremely retarded, to the great injury of the Government."

Since the reign of William the Conqueror, up to the present time, being nearly nine centuries, the entire depreciation of gold in England amounted only to 3 per cent.; while in Rome it was 24 per cent., in Scotland 36 per cent., and in France 66 per cent. As all prices were measured by gold, it necessarily followed, that whatever affected the value of gold as a commodity would affect all prices in the country; but the value of gold depended altogether on its cost of production, and does not depend on quantity. If it depended on quantity merely, silver ought to be 45 times cheaper than gold, being 45 times more plentiful; whereas, in reality, it was only 1-15th the price of gold, because it cost just 15 times more to get a pound of gold than it cost to procure a pound of silver.

Mr. Hancock then made some remarks on the standards of different nations. Silver was used as the standard of value in France, Hamburg, and the United States. Our only reason for taking gold was, that of all commodities it was found to be the least variable in value; but should it become changeable, we ought to adopt silver; and he contended it was the duty of Government to guard against the evils arising from variations in the standard of value, as it was important to have a systematic observation of prices, conducted on scientific principles, in order that Great Britain might preserve the character she had hitherto borne—that of a nation which, for the greatest length of time, had preserved the best standard of value.

IMPROVEMENTS IN CHEMICAL MANUFACTURES.

[Specification of patent granted to Alexander M'Dougal and Henry Rawson, Langsight, Manchester, for improvements in the manufacture of sulphuric acid, nitric acid, oxalic acid, chlorine, and sulphur.]—*Mechanics' Magazine.*

The improvements sought to be secured under this patent are as follow:—

1. Rice is to be substituted for sugar, or starch, in the manufacture of oxalic acid.

2. The nitrous fumes resulting from the manufacture of oxalic acid, or any other process, are converted into nitric acid by being drawn, by means of a pneumatic apparatus, alternately through water and air. This is effected by means of a series of vessels, each filled two-thirds with water and one-third with air, and provided with a pipe leading from the top of the one to the bottom of the other. The first vessel in the series is connected with the source of supply, and the last with the exhausting apparatus.

3. The sulphurous vapour is converted into sulphuric acid by a similar process. The first vessel is connected with the sulphur furnace, and contains nitric acid. The other vessels contain water only. As the process continues, the first vessel will be exhausted of its nitric acid, which, passing through the series, will become condensed in the last of all, and its place supplied by pure sulphuric acid. At the conclusion of the operation the last vessel containing the condensed nitric acid is put in the place of the first containing pure sulphuric acid, which is removed, and the operation renewed, whereby the loss of nitric acid is prevented.

4. The improvements in the manufacture of chlorine consist in treating chromates or bichromates (by preference those of lime) with hydrochloric acid in a free or nascent state. Chlorine is given off, and a chloride or sesqui-chloride of chromium and a chloride of the base of the chrome salt produced. These latter products are treated with nitric acid, and the hydrochloric acid distilled off, for the formation of nitrates of chrome, and of the base of the salt originally used, which nitrates are subjected to heat and the nitrous vapours evolved, oxydised, and condensed, as in the first instance, for the production of nitric acid. What then remains is the chromate or bichromate originally employed, and which may be again used.—5. The improvement in the manufacture of sulphur consists in passing sulphuretted hydrogen through heated pipes, whereby the sulphur is deposited and the hydrogen driven off.

Claims.—1. The use of rice in the manufacture of oxalic acid.—2. The manufacture of nitric acid by passing the nitrous vapours alternately through water, or a weak solution of acid and air containing oxygen, whether such vapours are produced in the manufacture of oxalic acid or otherwise.—3. The manufacture of sulphuric acid by the processes described.—4. The use of the chromates, or bichromates, in the manufacture of chlorine, in connection with the use of nitric acid for the reconversion of the bye products into the chromate, or bichromate, originally employed.—5. The decomposition of sulphuretted hydrogen by heat.

NEW PATENTS.

Pierre Armand Lecomte de Fontainemoreau, South-street, Finsbury, for certain improvements in weaving. (Being a communication.)

F. E. Colegrave, gent., Brighton, for improvements in the means of communicating between the passengers and guard of a railway train, or between the guard and engine driver; parts of which improvements are also applicable to working signals on railways.

Rees Reece, St. John-street, Smithfield, and A. P. Price, Margate, Kent, chemist, for improvements in the manufacture and refining of sugar or saccharine matters.

A. Crosse, Esq., Gloucester-place, New-road, Middlesex, for improvements in tanning hides and skins, and also in dyeing fabrics and substances.

T. Goodfellow, of Tunstall, Stafford, earthenware manufacture, and G. Goodfellow, of Shelton, in the same county, potter, for improvements in the method or methods of preparing plastic materials for manufacturing purposes.

Andrew Smith, of St. James's, Westminster, engineer, for improvements in machinery for, or methods of, manufacturing rope or cordage, and improved modes of fitting and using the same,

F. Steiner, Hyndburn, near Accrington, Lancaster, Turkey-red dyer, for improved processes and apparatus to be used in the Turkey-red dye on cotton and its fabrics.

Solomon Israel Da Costa, of St. Helen's, in the City of London, civil engineer, for improvements in vessels for holding solids or fluids, and in machinery for manufacturing such vessels.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

C. Fletcher and Co., Birmingham, cylinder for brick-making machine.
H. R. Stevens, Newmarket, smoke diffuser to cure smoky chimneys.
W. Parkins, Oxford-street, double secure envelope.
T. Suttie, Greenock, kitchen boiler.—*Mechanics' Magazine.*

JOINT-STOCK BANKS.

Shares.	*Companies.*	*Paid.*	*Div. p. cent.*	*Price.*
22,500	Australasia	£40	£3	£23½
20,000	British North American	50	6	39
20,000	Colonial	25	3	7 6½
—	Commercial of London	20	6	20½
4,000	Ionian State	25	6	24½ 28
60,000	London Joint-Stock	10	6	15
20,000	London and Westminster	20	6	24½
10,000	National Provincial of England	35	5	35
20,000	National of Ireland	22½	6	18½
20,000	Provincial of Ireland	25	8	39
4,000	Ditto New	10	8	15
—	South Australia	22½	—	24 23½
20,000	Union of Australia	25	6	24
10,000	Ditto New	2½	6	2
60,000	Union of London	15	6	10½

COAL MARKET, LONDON.

PRICE OF COALS PER TON AT THE CLOSE OF THE MARKET.

MONDAY.—East Adair's Main 11 6—Holywell Main 13 6 to 13 9—Ord's Redheugh 12—Ravensworth's West Hartley 13 6—Tanfield Moor 13—Townley 12 6—Wall's-end Brown's 13 9—Bewicke and Co. 14—Gibson 13 3—Hilda 13 3—Hedley 13 9—Percy 13—Eden Main 15—Belmont 15 3—Braddyll's Hetton 16—Bell 14 6—Hetton 16 6—Haswell 16 9—Lambton 16—Pemberton 13 9—Whitwell 15—Caradoc 15 6—Hartlepool 16 6—Heugh Hall 14 6—Bishop's Tees 14 6—Cowndon Tees 14 6—Denison 14—Seymour Tees 14 6—Tees 16 3—West Cornforth 14 6—West Hetton 14 6—Cowpen Hartley 14 6 Grangemouth 12 6—Nixon's Merthyr 20 6—W. E. Elgin 14.—Ships, 108; sold, 45.

WEDNESDAY.—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Dean's Primrose 13 6—Holywell Main 14—Tanfield Moor 13—West Hartley 14 6—Wall's End Acorn Close 14 9—Brown's 12 9—Bewicke and Co. 14 6—Gibson 13 6—Hilda 13 6—Northumberland 13 6—Percy 13 6—Bell 15—Hetton 16 6—Haswell 16 9—Lambton 16—Morrison 14 6—Pemberton 14 3—Heugh Hall 15—Adelaide Tees 16—Cowndon Tees 14 9—South Durham 14—Tees 16 6—West Hetton 14 9—Cowpen Hartley 14 6—Nixon's Merthyr 21—Whitworth Coke 21.—Ships at market, 82; sold, 61.

FRIDAY.—Bate's West Hartley 14—Buddle's West Hartley 14 6—Carr's Hartley 14 6—Chester Main 13 6—Hasting's Hartley 14—Holywell Main 14 6—New Tanfield 12 9—Old Tanfield 12—Ord's Redheugh 12—Tanfield Moor 13—West Hartley 14 6—Wylam 13 6—Wall's End Bewicke and Co. 14 6—Gibson 13 6—Hilda 13 9—Heaton 14 6—Hedley 14 6—Killingworth 14 3—Percy 13 6—Eden Main 15 3—Lambton Primrose 15 3—Haswell 17—Russell's Hetton 16 3—Stewart's 16 9—Whitwell 15—Howdon 14 9—Kelloe 15 9—Tees 16 6—West Cornforth 14 6—Anthracite 26—Nixon's Merthyr 21—Ships, 72.

Current Prices of Stocks, Shares, & Metals.

STOCK EXCHANGE, *Saturday morning Eleven o'clock.*

Bank Stock, 7 per Cent., 195 3½	Belgian, 4½ per Cent., 80
3 per Cent. Reduced Ann., 89¾ ¾	Dutch, 2½ per Cent., 47½ 8½
3 per Cent. Consols Ann., 90¾ 1 ¾	Brazilian, New, 5 per Cent., 76
3½ per Cent. Ann., 90¾ ¾ ¾	Chilian, 6 per Cent., 91 ½
Long Annuities, 8¾	Mexican 5 per Cent., 30½
India Stock, 10½ per Cent., 245	Russian, 5 per Cent., 101
3 per Cent. Consols for Acc. 91 ¾	Spanish, 5 per Cent, 16 18½
Exchequ. Bills, 1000*l.* 2d. & 1½d. 47 4 pm.	Ditto 3 per Cent., 32

MINES.—Although no particular amount of business has been transacted in the mining share market during the week, we learn that a good proportion is likely to arise from negociations going on. We find our reports from the mining districts generally of an improving character, and, for leading mines there continues a fair demand at buyers' prices. West Caradon is represented to have very considerably improved during the past few days, and buyers are found at advanced prices. Holmbush is much improved in the flap-jack lode. In Kingsett and Bedford they have discovered a very productive lead lode. Buyers may be found for Trelawny, Mary Ann, Bedford United, and other improving mines. West Buller's have been in request at an advance. Among the Welsh mines we find Esgair Lli and Llwynmalees have been sought for, and business may be done at higher quotations.

Shares in the following mines have changed hands during the week:—East Wheal Rose, Treviskey and Barrier, South Wheal Frances, Comfort, West Tolgus, Callington, West Caradon, Wheal Trelawny, Condurrow, Wheal Franco, Mary Ann, Birch Tor, Mendip Hills, Tamar Consols, Tincroft, East and South Tamar, Bedford United, Esgair Lli, Wheal Bawden, Camborne Consols, &c., &c.

At a meeting of the United Mines adventurers, on Wednesday, a dividend of 10*l.* per share was declared.

At the East Wheal Crofty meeting, the accounts showed a profit on the March and April workings of 222*l.* 5s. 1d., which made a balance in hand of 2350*l.* 0s. 2d., from which a dividend of 470*l.* was paid, leaving 1808*l.* 2s.

The directors of the Devon Great Consols, at their weekly meeting, on Wednesday, declared a dividend of 7*l.* 10s. per share, or 7680*l.*, on February and March workings—leaving an available balance of 19,696*l.* 12s. 10d. in cash, Exchequer Bills, and for ore sold and not yet due. The official report, we learn, advises of some improvements during the past week.

At the North Roskear meeting, on the 16th, a profit of 287*l.* 8s. 11d. was realised on Feb. and March workings, which, with the balance of 1772*l.* 5s. 7d. in bankers' hands from end of January, amounts to 2059*l.* 14s. 6d. to credit of adventurers. No dividend was declared.

At the Great Polgooth meeting for February and March accounts, a dividend of 4*l.* 10s. per share was declared, carrying a credit of 188*l.* 8s. 11d. to next account. The profit on the two months' working was 1290*l.* 8s. 11d. from sales of nearly 124 tons of tin, and 8 tons 17 cwts. of copper, realising, together, 5736*l.* 14s. 2d. The agent's report states the mine to be in a progressively improving position.

At the Treviskey and Barrier meeting, on Monday, a dividend of 4*l.* 10s. per share was declared in Treviskey, from a profit of 571*l.* 6s. 7d. in Feb. and March, leaving a balance of 43*l.* 11s. 8d. in purser's hands, with ore bills coming due. The returns from Barrier are small, and a debt to the purser has, consequently, been incurred. By the agent's report, we find the lode in the bottom level at present unproductive The lode in the 235 fm. level is producing 6 tons of ore per fm., and a rise in the 248 yielding 5 tons per fm.; 330 tons were sampled last week, and 100 tons more were broken, but an accident to the whim-engine precluded its being rendered marketable at the time.

At the Kirkcudbrightshire meeting the statement of accounts presented showed a balance of 160*l.* 15s. 1d. in favour of company. Upwards of 156 tons of lead have been raised during the months of Feb., March, and April, being a slight increase over the preceding quarter's returns. Since the meeting we learn that a manifest improvement has taken place in the mines; the two western levels continue to look well, and a cargo of ore has been lately shipped.

At the meeting of the Mendip Hills company, on Tuesday, the statement of accounts for five months, ending in April, were produced, showing balance of about 1200*l.* in favour of adventurers, including arrears of calls amounting to 800*l.* The chief object of the meeting appears to have been the disposition of a large number of shares which, according to the rules and regulations of the company, were forfeited. But an application having been made by a defaulting shareholder for the restoration of his proportion, on payment of the calls due, the directors deemed it advisable to consult the views of a general meeting, who unanimously resolved not to restore them, but to leave the mode of disposal to the decision of the directors; in consequence, however, of the absence of one of the board, the decision was deferred. The report advises that arrangements were in progress for making the most satisfactory returns from this important property.

At the meeting of Great Rough Tor Consols, on Wednesday, a call of 1*l.* per share was deemed necessary, for further prosecuting the mines. A detailed report of the present position and prospects of the mines was presented, from Mr. Hitchins, of Devon Great Consols, which will be found in another column.

At the Runnaford Coombe meeting, the accounts showed a balance in favour of the company of 170*l.* 4s. 9d., and the agent's report represented the mine to be in an improving condition.

The meeting of shareholders in the National Brazilian Mining Association, a full report of which will be found in another column, passed over most harmoniously, and formed a gratifying contrast with those held in 1848, when a division was caused by the perfectly unlooked for and unwise conduct of an individual, who it seems has considered it prudent to forego his threatened attempt to place himself again in the direction, and did not even show on this occasion. The fullest confidence in the exertions of the now only two directors, Messrs. Oxenford and Hamilton, is gaining ground with the gradual improvement of the mines; the report, though perhaps not so satisfactory as to present returns as might be wished, showed, by comparison, and by the geological indications in the working, that, according to all mining probability, a gradual increase must continue, and that a valuable deposit is not far off; and if those holders of marked shares, who have not paid their calls, would come forward and assist the directors to funds, it would cause a more rapid development of the resources of the property, which, in all probability, are yet great. There is now an opportunity of these holders regaining their position in the association, and should they miss the opportunity, and in a packet or two the expected cheering news arrive, of a great discovery being made, they will only have themselves to blame that the door is closed against them. It is but justice that those who have toiled through the winter of barrenness, and supported the very existence of the crops, should alone reap the golden harvest, ripened by the summer's sun of patience and perseverance.

In foreign mines the transactions have been somewhat limited during the week. St. John del Reys have receded, Bolanos, Gaudalcanal, United Mexican, and Australians have also changed hands at lower figures.

Dispatches have been received by the directors of the United Mexican, Bolanos, Imperial Brazilian, and Alten Mining Companies, all which will be found in detail in our Journal of this day.

The United Mexican advices are to the 9th April, but they contain no very important discoveries or improvements in the underground operations. The manager states, that the adoption of a new system of working has been attended with successful results, inasmuch that a profit of $2000 per week have been realised. Copy of contract for the new mines has also been received by the directors, particulars of which, with the agent's detailed report of the mines, will be found in another column.

The Bolanos letters are to the 6th April, and report the progress of the erections and machinery as satisfactory, and that the engine will be in work by the end of the month. The underground operations are limited, in consequence of the water; the veins are in general poor, but some occasional good work. Any improvement is not expected until after the water is in fork.

The directors of the Anglo-Mexican Mines have been advised by their agent of the receipt of $5000 for a portion of their property, and being still engaged in the disposal of the remainder.

The Imperial Brazilian advices are to the 23d March, and give the gold returns from the 3d to the 22d March—Gongo Soco, 12 lbs. 7 ozs. 15 dwts.; and Bananal, 11 lbs. 10 ozs. 4 dwts.=24 lbs. 5 ozs. 19 dwts. Total from the 1st of January from both mines, 102 lbs. 5 ozs. 19 dwts. The manager, in reporting on the 3d March, states, that the 14 fm. level, west of Walker's shaft, is going rapidly through the jacotinga formation, but had not reached the gold bearing vein; and that three boxes of favourable work had been extracted from the 14 fm. level, south of Thomas's shaft. On the 6th, he states that material improvements had taken place in the 7 fm. level, north of Walker's cross-cut, and in the 7 and 14 fm. levels, south of Thomas's shaft. The prospects, on the whole, are more encouraging than previous advices.

The Alten report for the month of March estimated the total returns at 185 tons. The mining report states that at Raipas Mine, after frequent changes, they had succeeded in finding a productive lode in the back of the 20 fm. level, and also in the cross-cut going north they have a very promising lode, with every prospect of great improvement. At the Old Mine, Ryper's, Michell's, and Carl Johan's, improvements have taken place. About 14 tons of fine copper are expected this year over the preceding. Although a falling off in the returns at Ward's Mine may produce a deficiency for April, it is not expected that any deficiency will be found in the total produce.

By advices from Port Philip to the 7th Feb., we learn that gold has been found in the neighbourhood of the Pyrenees, a district of about 120 miles to the west. This discovery appears to have been very opportune, at a period when the inhabitants were making arrangements for emigrating to the Californian gold gatherings. The reports (inserted in another column) are vague; consequently, we wait the next advices for confirmation.

By the Indian mail, we learn that the metal markets of the east continue in a favourable position; whilst stocks of some kinds are only moderate.

IRON, HARDWARE, AND METAL TRADES' PENSION SOCIETY.—SIXTH ELECTION.—A GENERAL MEETING of the members of the above society will be HELD at the London Tavern, Bishopsgate-street, on Monday, the 28th day of May, 1849, at half-past Twelve o'clock precisely, for the purpose of electing Four Men and Two Women, as additional pensioners, and for other business.

The poll will commence at One o'clock, and no polling paper can be received after Four o'clock. THOMAS HAWKINS, Hon. Sec.

67, Upper Thames-street, London, May 1, 1849.

DUISBURG IRON-WORKS AND MINES, *IN WESTPHALIA, CLOSE TO THE RHINE.*

Managed in England according to the principles of the "Cost-book System," and in Prussia as a *Société in Commandite*, under laws limiting the liability of the shareholders to their personal subscription.

Company's Offices, 28, Moorgate-street, City.

ASSAYING AND ANALYSIS.—Mr. MITCHELL begs to inform the MANAGERS, &c., of MINES, SMELTING-WORKS, and MANUFACTORIES, that he still continues to CONDUCT ASSAYS and ANALYSES of all PRODUCTS, metallurgical and manufacturing, at his LABORATORY,

23, *HAWLEY-ROAD, KENTISH TOWN, LONDON,*

to which address communications are to be forwarded.—Instruction in all branches of assaying and analysis as usual.

LATEST CURRENT PRICES OF METALS.

LONDON, MAY 25, 1849.

ENGLISH IRON. *a*	per ton.
Bar, bolt, & square, London	£6 0 0
Nail rods	6 10 0
Hoops	7 15 0
Sheets (singles)	8 15 0
Bars, at Cardiff & Newport	4 15—5
Refined metal, Wales*	3 10—15
Do. anthracite*	3 15 0
Pig, No. 1, Wales, cold-blast	3 10 0
Do. do. hot-blast	3 5 0
Do., No. 1, Clyde ... *net cash*	2 2—2 4
Blewitt's Patent Refined Iron for bars, rails, &c., free on board at Newport*	3 15 0
Do., do., for tin-plates, boiler plates, &c., ditto	4 10 0
Stirling's Patent Toughened Pigs in Glasgow	2 17 6—3 2 6
Stirling's Patent Toughened Pigs in Wales	3 10—4
Staffordshire bars, at the works	6 10
Pigs, in Staffordshire	3 0—3 5
Rails	5 5—5 10
Chairs	4 0 0
FOREIGN IRON. *b*	
Swedish	11 10—12
CCND	17 0 0
PSI	—
Gourieff	—
Archangel	12 10—13
FOREIGN STEEL. *c*	
Swedish keg	14 0—14 5
Ditto faggot	15 0 0
ENGLISH COPPER. *d*	
Sheets, sheathing, & bolts, *p. lb.*	0 0 10
Tough cake ... *per ton*	88 10 0

Tile	£87 10 0
Old copper *e* ... *per lb.*	8 d
FOREIGN COPPER. *f*	
South American, in bond	£73—75
ENGLISH LEAD. *g*	
Pig ... *per ton*	16 0 0
Sheet	16 15—17
Red lead	17 10 0
White ditto	22 0 0
Patent shot	19 10 0
FOREIGN LEAD. *h*	
Spanish, in bond	15 10—15
American ditto	—
ENGLISH TIN. *i*	
Block ... *per cwt.*	4 1 6
Bar	4 2 0
Refined	4 8 0
FOREIGN TIN *k*	
Banca, in bond	4 7 0
Straits	4 5 0
Peruvian (6 mo 2½ p. ct. dis.)	15 0—15 10
TIN-PLATES. *l*	
IC Coke ... *per box*	1 7—1 7 6
IC Charcoal	1 13 0
IX ditto	1 18 0
SPELTER. *m*	
Plates, warehoused ... *per ton*	15 0 0
Ditto, to arrive	—
ZINC. *n*	
English sheet ... *per ton*	24 0 0
QUICKSILVER *o* ... *per lb.*	0 3 2

Terms.—*a*, 6 months, or 2½ per cent. dis.; *b*, ditto; *c*, ditto; *d*, 6 months, or 3 per ct. dis; *e*, 6 months, or 2½ per cent. dis.: *f*, ditto; *g*, ditto; *h*, ditto; *i*, ditto; *k*, net cash; *l*, 6 months, or 3 p. ct. dis.; *m*, net cash; *n*, 3 months, or 1½ p. c. dis.; *o*, ditto, 1½ dis.

* Cold-blast, free on board in Wales.

REMARKS.—We cannot report any improvement in the metal market this week; on the contrary, lower prices have been submitted to for manufactured iron, and the expected reduction on Staffordshire, mentioned in our last, has taken place. Circulars from the principal makers have been received, announcing a fall of 20s. on the prices fixed at the last quarterly meeting. Scotch pig-iron, under the influence of speculative purchases, maintains last week's prices, and may be quoted at 42s. 6d. for mixed Nos., and 43s., all No. 1—cash in 10 days. A fall in tin of 3*l.* per ton has taken place this week.

GLASGOW, MAY 23.—The depression in the iron trade still continues, and the weekly advices from America seem only to increase its effects. The letters per, *Cambria*, give a very gloomy view of the trade both at New York and Boston. At the former place the market is in a sadly depressed condition; Gartsherrie No. 1 pig iron, nominally held at $22, with sales reported at $21, six months. Welsh bars have fallen, in 60 days, from $52½ to $42½, and are quite nominal at the latter value. Our stocks on hand are too large, and the constant succession of arrivals of Scotch pig iron in large quantities, with advices from England of further considerable imports, have destroyed all hope of any favourable turn in the market. The same state of things ruled at Boston. These circumstances, acting on a previously dull and receding market, have completely paralysed business here. As in Wales and Staffordshire, the want of orders for manufactured iron is beginning to be felt by the Scotch makers, and bars must be written 5s. lower than our last quotations. Some favourite makes have commanded former rates of 6*l.* 15s. to 7*l.* In pig iron the speculation seems to be drawing to a close, the parties principally engaged in it having met with ample returns for their shrewdness and foresight. There are very few transactions for shipment or consumption, and the reduced consumption with the increase of production, causes a rapid accumulation of stock. The price rules 42s. mixed Nos., and 42s. 6d. to 43s., No. 1; Gartsherrie, 43s. 6d. to 44s., No. 1, cash, free on board.

— MAY 24.—In pig-iron the business has been small this week, and the price has undergone almost no change. The accounts from the United States are continuing bad, but this was anticipated, from the large shipments made to that market. Few sales have been made at 42s. The price of mixed Nos. may be quoted at 42s. 6d.—cash.

A meeting of the iron trade was held, on Monday, at Dudley, when a resolution was adopted reducing the price of iron 20s. per ton, and agreeing to give notice to the workmen employed in forges and mills that the last advance in their wages would be taken off again. Upon the whole, this is considered a wise step on the part of the ironmasters, and that it will be to the interest of the workmen also. It is well known that, since the last advance, the men, in many instances, although working at a nominal advance, have not had half employment; and it is trusted that the present arrangement will secure to this district its full share of the iron trade, and that the workmen will be fully employed. Our readers should know that, at the reduced wages, puddlers and millmen can earn from 6s. to 10s. per day, and in some cases even more.—*Wolverhampton Chronicle*

EXPORTATION OF THE PRECIOUS METALS.—The following are the official returns of the exports of gold and silver from the port of London for the last week:—Silver bars to Rotterdam, 20,000 ounces—Silver coin to ditto, 6000; ditto to Belgium, 27,500; ditto to Hamburgh, 1803; ditto to Mauritius, 3910—Gold coin to Hamburgh, 93; ditto to Mauritius, 2809; ditto to ditto, £3564—Gold coin to Belgium, 150 ounces—Specie to Mauritius, £179.

By advices which have been received from the Alten Mines, we are gratified in being able to state, that a great and decided improvement has taken place in that property. At no period, during the last five years, have the prospects been so encouraging as at this present time. The mining report will be found in another column; the judicious and economical system of working on tribute, introduced by Mr. Thomas, has no doubt led to this favourable result. Up to the close of the year ending March 31st, the fine copper produced had exceeded the quantity estimated by 14 tons. The monthly returns for February and March, have considerably increased; and there is every probability that further improvements will take place during the summer.

VAN DIEMEN'S LAND COMPANY.—Much dissatisfaction is beginning to be freely expressed among some of the shareholders in this company at the strange apathy evinced by the directors in the management of their affairs, and the injury which they sustain from the consequent depreciation in their property. The company, established 25 years since, obtained a grant of 350,000 acres of land in Van Diemen's Land, including some of the most fertile and most valuable in the colony. They have in that period expended 250,000*l.*, without any proportionate improvement of the property; and, during the whole period, only a few shillings as a dividend on two or three occasions have been paid. Although every share is worth, at all events, 35 acres of land (worth at the least 1*l.* per acre), it is a question whether, if an attempt was made to sell a number, they would obtain 1*l.* each. It is too much the fashion to place implicit faith in directors, to listen to their fair promises, and allow indolence and mismanagement to undermine the fairest prospects of public companies; but we trust, in the present case, the shareholders will bestir themselves, and, by some stringent resolutions, compel the directors to active exertion in developing the advantages of this really valuable property, prevent the making further calls—the fear of which is the cause of the decreased value of the shares—and put a stop to the further useless expenditure of capital.

By letters from China, it appears that the amount of gold which had been received from California between the 1st of January and the 31st of March, was estimated at $350,000. The demand for goods in return had cleared the market of some articles that had for a long time remained on hand.—*Times.*

RAILWAYS IN IRELAND—RAILWAY TO GALWAY.—The construction of a line of railway from Dublin to Galway now appears to be certain. A deputation of the directors of the Midland Great Western Railway had a meeting yesterday (Friday) with the Chancellor of the Exchequer, and have concluded on the following basis of agreement:—The Government to advance 500,000*l.*, at 3½ per cent. interest, and the repayment of the principal to commence at the end of 10 years, by a payment of 1½ per cent. per annum on account of principal, which will extinguish the debt in a period of about 35 years. The interest to be paid by the railway company, but should the earnings of the line not realise the amount of the interest, the Act of Parliament will empower the company to levy the deficiency off the baronies or districts to be benefitted by the railway. The works between Mullingar and Athlone will be commenced immediately; and from Athlone to Galway so soon as preparations can be made. Thus a large amount of employment will soon be in operation along the whole extent of the line.—*Railway Record.*

THE TREATY OF PEACE.—We believe we may at length state, with something like certainty, the "great fact," that a treaty, offensive and defensive, has been sealed, signed, and delivered, respecting the battle-field lying between Birmingham, Dudley, Stourbridge, and Wolverhampton; in other words, the magnates of the two great companies have met, and amicably arranged the mode in which railway accommodation is to be supplied to this district. We are not yet in possession of the details, but we have every reason to believe that the construction of a considerable length of line will be avoided, while arrangements will be made mutually advantageous to shareholders in the respective companies, and to the public at large.—*Worcestershire Chronicle.*

PRICES OF MINING SHARES.

BRITISH MINES.

Shares.	Company.	Paid.	Price.
1000	Abergwessin	8	3
1024	Alfred Consols	8½	7½
1000	Antimony & Silver-Lead	5	5½
1024	Ashburton United Mines	8½	12
1024	Balleswidden	9	18
128	Balnoon Consols	42½	50
10000	Banwen Iron Co.	6	6
1000	Barristown	5½	1½ 2
1000	Bawden	1	1¼ 1½
4000	Bedford	2½	3¼ 4
1244	Birch Tor Tin Mine	9	5½
8000	Blaenavon	50	12½
5000	Blisland Consols	1	6
100	Botallack	182	25
120	Brewer	5	3
10000	British Iron, New, regis.	12	8
—	Ditto ditto, scrip	10	10
128	Budnick Consols	52½	12½
1000	Callington	20	14 15 16
1000	Camborne Consols	6	6
20000	Cameron's Steam Coal	7	1 2
256	Caradon Copper Mine	9½	1½
256	Caradon Mines	22½	10
256	Caradon United	2?	5 8
256	Caradon Wh. Hooper	21	4½
1000	Carn Brea	15	104
3000	Carthew Consols	1½	5
114	Charlestown	220	—
500	Comblawn	5½	4½
128	Comfort	45	60 65
256	Condurrow	20	90
2560	Cook's Kitchen	14	2½ 3
1000	Coombe Valley Quarry	3½	4½
1000	Copper Bottom	1½	0½
212	Craddock Moor	23½	5
128	Creeg Braws	120	30
500	Cubert Mine	12½	—
1000	Cwm Erfin	3	2½ 3½
300	D. Prior & Buckfastleigh	—	—
7100	Derwent	8½	5
845	Devon & Courtenay Con.	7½	½
1024	Devon Great Consols	1	200 5 10
1000	Dhurode	2	5
186	Dolcoath	30	15
2560	Drake Walls	5½	3 4
10000	Durham County Coal	45	9
3000	Dyfngwm	10	12½
512	East Alvenney	5½	6 6½
2500	East Birch Tor	3	3½
112	East Caradon	47	47
2048	East Crowndale	6½	4
512	East Combe Silver-Lead	6½	6½
128	East Pool	15	66 70
9000	East Tamar Consols	¼	¼ ½ ¾
94	East Wheal Crofty	125	65 70
1024	East Wheal Fortune	2	3
128	East Wheal Rose	50	550 600
—	East of Scotland Iron Co.	5	1½
123	East Wheal Seton	14	10
1280	Esgair Lli	1½	3 3½
248	Exmoor Wh. Eliza	6	6
494	Fowey Consols	40	45
1024	Freidd Llwydd Mines	1½	3½
6400	Gadair	2	2
4000	Gen. Mining Co. for Irel.	1½	1½
256	Gonamena	44½	16
128	Goonvrea	4	2
256	Grambler & St. Aubyn	80	12 15
100	Great Consols	1000	120
512	Gt. Wh. Rough Tor Con.	18½	20 22
2000	Growa Slate Company	5	5
256	Gwinear Consols	7	1
6000	Heigston Down Con.	1½	1½ 1½
256	Herodsfoot	27	12 4 6
10000	Hibernian	12½	1½
239	Hobb's Hill	6	1½
1000	Holmbush	22	10 15
1536	Holne Park	2	5
1024	Kingsett and Bedford	1	3½ 4
787	Kirkcudbrightshire	8½	3 4
2048	Lanheroe Wh. Maria	7½	2
252	Lanarth Consols	—	4
128	Lelant Consols	90	40
160	Levant	—	180
1000	Lewis	16	10½
1000	Llwynmalees	8	8 8½
3600	Llynvi Iron	50	50
256	Lostwithiel Consols	19	14
6000	Marke Valley	10	½ 1
5000	Mendip Hills	3	1½ 1½
128	Metha	34	—
20000	Mining Co. of Ireland	7	4½ ½
1280	Nantyceria	4	4
256	New East Crowndale	3½	2½
100	North Pool	45	640
140	North Roskear	5½	150
262	North Wh. Leisure	1½	2
256	North Wheal Basset	10	10 12
15000	Northern Coal Co.	23	2
128	Par Consols	55½	800
8000	Pennant & Craigwen	2	2½
1024	Penzance Consols	18s 3d	3
512	Plymouth Wh. Yeoland	6½	6
200	Polsaith Consols	5½	4½
2500	Rhoswiddol & Bacheidon	10	10
10000	Rhymney Iron	50	13
10000	Ditto New	7	6½
1000	Rosewall Hill	1	5
256	Rosewarva Mines	—	12
2048	Runnaford Coombe Tin	½	12

BRITISH MINES—*continued.*

Shares.	Company.	Paid.	Price.
9000	South Tamar	¼	½ ¾ 1
128	South Caradon	5	400
1100	South Dolcoath	4	5
256	Sth. Friendsh. Wh. Ann	20	4
256	South Molton	5	17
256	South Tolgus	14	55 60
256	South Trelawny	28½	2 3
2000	South Wales Mining Co.	½	1 1½
128	South Wheal Basset	20½	300 10
124	South Wh. Frances	160	250 60
256	South Wh. Josiah	—	3
1000	South Wh. Maria	2½	1½
10000	Southern & Western, Irish	2	4
280	Spearne Moor	30	40
256	St. Austell Consols	9	—
94	St. Ives Consols	—	70 90
128	St. Michael Penkivel	5	10½
999	St. Minver Consols	1	6
1000	Stray Park	43	17½
9600	Tamar Consols	3	7½ 8½
1024	Tavy Consols	6	1½ 2
6000	Tincroft	7	11 11½
1000	Tin Vale	2½	2½
58	Tokenbury	170	10
256	Tregordan	2	4 6
256	Trehane	1½	25 26
5000	Treleigh Consols	6	2½ 2½
2000	Trenance	3	—
96	Tresavean	10	120
120	Trethellan	5	15 16
120	Treviskey and Barrier	130	85
288	Trevean	1½	5
100	United Mines	300	200
256	Wellington Mines	25	35 40
128	West Buller	10	350 75
256	West Caradon	20	125
512	West Fowey Consols	40	12
256	West Providence	9	15
200	West Seton	40	190 200
—	West of Scotland Iron Co.	240	90
120	West Trethellan	5	16
256	West United Hills	—	4½
512	West Wheal Frances	1½	2
256	West Wh. Friendship	9	8
3725	West Wheal Jewel	11	½ 1½
256	West Wheal Tolgus	80	11 12½
256	West Wheal Treasury	19	4½ 5½ 8
1024	Whiddon Mines	4½	2
5200	Wicklow Copper	5	7½ 7½
107	Wheal Adams	79	30
1000	Wheal Agar	—	8
256	Wheal Albert	10	1
240	Wheal Anderton	25½	29½
128	Wheal Ann	—	50½
512	Wheal Anna Maria	6½	8
1024	Wheal Ash	4½	8
120	Wheal Bal	5½	15
256	Wheal Benny	14½	2
256	Wheal Blencowe	21	10
256	Wheal Bucketts	20	8
232½	Wheal Calstock	9	15
1024	Wheal Coad	1	4
268	Wheal Courtenay	12½	—
256	Wheal Fortescue	6½	—
388	Wheal Franco	27	12 15
128	Wheal Harriet	45	—
100	Wheal Henry	—	20 5
112	Wheal Margaret	79	200
512	Wheal Mary Ann	5	17½ 9 20
208	Wheal Mary Consols	60½	8
—	Wheal Penhale	—	12
210	Wheal Prospect	4	7
120	Wheal Reeth	41	150
128	Wheal Rose	60	3
198	Wheal Seton	214	250
180	Wheal Sisters	35½	5
494	Wheal Sophia	4½	5
128	Wheal Spearne	10	75
128	Wheal St. Ann	30	35
550	Wheal Trescoll	7	10
260	Wheal Trelawny	7½	75 80 5
256	Wh. Tremaine (St. Ervan)	9½	2½
1024	Wheal Tremayne	9½	3 4
92	Wheal Tryphena	140	265
1000	Wheal Vincent	2	7
256	Wheal Viow (Perranz.)	½	½
184	Wheal Vyvyan	—	60
250	Wheal Williams	28½	8
	FOREIGN MINES.		
5000	Alten Mining Company	14½	2½
15000	Asturian Mining Co.	15	3½
20000	Australian	3	6½ 5½
10000	Anglo-Mexican Co.	100	—
12374	Ditto Subscription	25	1½
6000	Barossa Range	1½	1½ ½
3000	Bolanos	150	1½
2000	Ditto Scrip	1½	2½ 2½
10000	Brazilian Imperial	23	3½ 4
12000	Cobre Copper Co.	40	24½
10000	Copiapo Mining Co.	14	4 4½
20000	General Mining Ass'n.	20	14
4000	Guadalcanal	5	9 10
5000	Kinzigthal Mining Ass.	2	1½
5051	Mexican Company	59½	—
2000	Mexican & South Amer.	8	1 1½
5000	National Brazilian	30	3½ ½
104000	N. Brit. Australasian	1	5s 6d
7000	Royal Santiago	10	5½
11000	St. John del Rey	15	11½ ½ 12
43174	United Mexican ... Av.	28½	3

RAILWAY TRAFFIC RETURNS.

Names of Railways.	Length. 1849	Length. 1848	Present actual cost.	Price p. share	Div. 1848	Traffic Return. 1849	Traffic Return. 1848
Aberdeen	33	16	1,000,547	19	—	£ 540	£—
Belfast and Ballymena	37½	37½	——	21½	5*	493	327
Birkenhead, Lancashire, & Chesh.	19	15	1,088,804	37	5†	840	829
Bolton, Blackburn, & West Yorksh.	14	—	786,384	7½	—	410	—
Bristol and Exeter	75½	75½	2,660,490	60 61	—	4189	—
Caledonian	141	141	4,865,135	24½	3	4944	3821
Chester and Holyhead	84	59½	3,358,217	15	4	1349	648
Dublin and Drogheda	35½	35½	774,875	29½	—	856	768
Dublin and Kingstown	7½	7½	395,915	—	—	961	977
Dundee, Perth, & Aberdeen Junc.	47½	47½	544,554	24	6½	1095	826
East Anglian (Lynn to Ely)	91½	55½	1,167,104	2½	—	634	522
East Lancashire	75½	24	2,628,519	16	5	2929	1006
Eastern Counties and Norfolk	322	295	12,027,069	8½	—	14051	14201
Eastern Union	50½	50½	1,712,703	13	—	1241	1121
Edinburgh and Glasgow	57½	52½	2,644,378	42	6	3938	3777
Edinburgh and Northern	78	34	2,232,115	12½	2	2251	1256
Glasgow, Paisley, and Ayr	102½	74	2,574,330	57	3	2949	2104
Glasgow, Paisley, & Greenock	23	23	848,328	13½	2	1037	1003
Gt. Northern & East Lincolnshire	126	—	4,255,171	10½ ¼	5†	2390	—
Gt. Southern & Western, Ireland	168½	110½	3,172,519	32	6†	3676	2490
Great Western	230½	206½	11,608,815	78	6½	16466	21504
Kendal and Windermere	10½	10½	174,600	5	—	151	157
Lancaster and Carlisle	70	70	1,476,102	49	4½	2108	1907
Lancashire and Yorkshire	206½	127½	9,218,450	25	5½	12366	9873
Liverpool, Crosby, & Southport	13	—	84,455	—	—	104	—
London and North Western	435	428	25,077,942	126	7	39798	41748
London and Blackwall	5½	4	1,299,675	4½	1-12	777	1106
London, Brighton, & South Coast	170	162½	6,382,281	35½	2½	8448	8885
London and South-Western	216½	194	7,510,689	34	5½	9662	9254
Londonderry and Enniskillen	14½	14½	171,026	16	—	162	158
Manchester, Sheffield, & Lincolnsh.	129½	94½	6,048,679	37	5	3648	—
Midland Company	471	423½	14,042,840	67½	5½†	20815	20378
Midland Great Western (Irish)	50	36½	725,332	24½	4†	1127	1244
Monklands	37	—	500,000	—	6	807	—
North British	109½	83	3,649,055	13½	4½	2844	2081
Scottish Central	45½	—	1,364,228	24	7	1239	—
Shrewsbury and Chester	48	23	969,618	15½	5	1368	540
South Devon	57½	29	1,909,232	14	5	1652	1555
South-Eastern	165½	165½	8,116,914	20½	5½	8065	8689
Taff Vale	40	40	879,110	—	7½	2082	1762
Ulster	36	36	723,829	45½	—	—	851
West Cornwall	13	—	——	—	—	266	—
Whitehaven Junction	12	12	150,879	9½	3	—	189
York, Newcastle, & Berwick	269	242½	6,827,849	20½	7	10480	11135
York and North Midland	255½	234	4,983,618	30½	7	6727	8370
FOREIGN RAILWAYS.							
Amiens and Boulogne	76½	68	1,462,562	6½ ¼	2½	1187	1276
Dieppe	26	—	——	—	—	406	—
Dutch Rhenish	57½	57½	——	½	—	1327	1065
Montereau and Troyes	71½	71½	——	—	—	—	—
Northern of France	211	211	7,142,890	9	—	—	9902
Orleans to Bourges (Central)	107½	107½	1,229,848	—	4	—	—
Orleans to Tours	72	72	600,000	32	6	2580	2563
Paris and Orleans	82	82	2,011,720	29½	8½	—	—
Paris and Rouen	85	85	2,082,916	18½	5	5197	3754
Rouen and Havre	89½	—	2,272,176	9½	—	2497	1512
Strasburgh and Basle (monthly)	88	88	——	6	—	—	—
West Flanders (ditto)	—	—	——	1½	—	—	—

* Per cent.—† Interest.—Total for last week, £208,665, being an increase of £15,924 over last year.

SALES OF ORES.

The following minerals, from the mines of New Granada, were disposed of, by tender, by Messrs. Powles Brothers and Co., in London, on the 21st inst.:—

Concentrated mineral, containing gold and silver, about 1½ ton, at	£495 10 0	per ton
Capel stuff, silver, about 3½ tons, at	190 0 0	„
Silver ore, 3½ cwts., at	140 0 0	„

LEAD ORES.

Tickelings at the King's Head Hotel, Holywell, May 24.

Mines.	Tons.	Price per Ton.	Purchasers.
Pen-yr-henblas	40	£10 5 0	Walker, Parker, & Co.
ditto	38	10 1 6	Mather & Co.
Westminster	50	9 3 0	ditto
Jamaica	60	9 14 0	Newton, Keates, & Co.
Belgrave	20	9 15 0	Walker, Parker, & Co.
Deep Level	60	9 18 0	ditto
Catch	6	10 8 6	J. P. Eyton.
Milwr	50	10 17 0	Mather & Co.
South Australia	55	11 18 0	Newton, Keates, & Co.
ditto	5	7 6 0	Mather & Co.
ditto	28	12 1 0	ditto
ditto	2	7 12 0	ditto
Dolgelly	8	5 0 0	Newton, Keates, & Co.
ditto	7	12 0 0	Mather & Co.
ditto	3	22 0 0	Newton, Keates, & Co.
Douglas	75	10 1 0	Mather and Walker.
Total tons	507.		
Sold at Liskeard, May 21.			
Wheal Trelawny	105	£17 7 6	Tamar Smelting Co.
Sold May 25.			
Wheal Mary Ann	70	£19 10 0	Pontifex & Wood.
Cargoll	32	£15 3 6	Tamar Smelting Co.
ditto	6	10 2 6	ditto
Oxnam's Ore	20	14 0 6	ditto
Wheal Mary	1	33 2 6	Sims, Willyams, & Co.
ditto	½	15 5 6	R. Michell & Son.

BLACK TIN

Mine.	Tons.	Price.	Purchasers.
Polberrou	21½	£41 17 6	Daubuz and Calenick Co.
ditto	5	38 10 0	Bissoe Company.
ditto	3½	39 7 6	Williams and Co.
ditto	1½	35 0 0	Calenick Smelting Co.

COPPER ORES.

Sampled May 9, and Sold at the Royal Hotel, Truro, May 24, 1849.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
Consolidated	117	£5 5 0	South Caradon	60	£5 10 6
ditto	102	4 14 6	ditto	58	6 5 6
ditto	95	5 2 0	ditto	40	6 1 6
ditto	76	4 15 6	ditto	25	3 6 0
ditto	72	3 7 6	Trethellan	63	1 19 0
ditto	64	3 17 6	ditto	59	1 2 0
ditto	62	2 8 6	ditto	57	1 13 6
ditto	46	2 12 6	ditto	45	2 9 6
ditto	45	5 4 6	ditto	22	2 6 0
ditto	44	4 17 0	Wh. Comfort	70	1 9 6
United Mines	104	6 15 0	ditto	66	1 16 6
ditto	101	4 3 6	ditto	56	3 8 0
ditto	94	2 16 6	Perran St. George	50	10 9 0
ditto	92	5 9 0	ditto	32	4 4 0
ditto	80	2 3 0	ditto	27	3 1 0
ditto	72	3 6 0	ditto	26	1 15 6
ditto	64	3 13 6	Wh. Mary Consols	81	4 18 6
ditto	54	4 2 6	ditto	42	2 7 0
Tresavean	111	2 12 0	South Tolgus	74	5 12 0
ditto	91	3 3 6	ditto	41	4 15 6
ditto	86	2 16 6	ditto	6	2 5 6
ditto	76	1 12 0	Treleigh Consols	50	3 9 6
ditto	60	3 8 6	ditto	24	14 5 6
ditto	45	3 16 0	ditto	11	1 19 0
Treviskey	87	2 11 6	Wh. Ellen	41	4 14 6
ditto	81	6 14 6	ditto	22	2 15 6
ditto	76	6 10 6	ditto	18	6 18 6
ditto	50	6 8 6	West Fowey Consols	80	4 14 0
ditto	36	3 7 6	Wh. Prudence	34	1 17 6
Par Consols	85	6 9 0	ditto	26	3 7 6
ditto	83	3 9 6	Gramb. & St. Aub.	53	4 0 6
ditto	81	7 15 6	Richards's ore	25	1 16 6
ditto	64	5 0 6	ditto	6	Withdrawn
South Caradon	65	7 10 6	Wh. Clifford	16	1 17 0

TOTAL PRODUCE.

Consolidated	723	£3154 4 6	Wh. Mary Consols	123	£497 12 6
United Mines	661	2758 3 6	South Tolgus	121	623 16 6
Tresavean	469	1318 11 6	Treleigh Consols	85	537 16 0
Treviskey	330	1707 8 0	Wh. Ellen	81	379 8 6
Par Consols	313	1788 1 0	West Fowey Consols	80	376 0 0
South Caradon	248	1510 1 6	Wh. Prudence	60	151 10 0
Trethellan	246	445 4 0	Gramb. & St. Aub.	53	213 6 6
Wh. Comfort	192	414 2 0	Richards's ore	31	45 12 6
Perran St. George	135	785 8 0	Wh. Clifford	16	29 12 0

Average Standard ... £98 5 0 | Average Produce ... 7½

Average Price per ton ... £4 5 0

Quantity of Ore ... 3961 tons. | Quantity of Fine Copper, 281 tons 7 cwts.

Amount of Money ... £16,735 18 6

LAST SALE.—Average Standard ... £93 18 0.—Average Produce ... 9½

Standard of corresponding sale last month, 112*l.* 3s.—Produce, 6½.

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
Mines Royal	190	£784 13 0
Vivian and Sons	840	3506 12 3
Freeman and Co.	569	2662 4 11
P. Grenfell and Sons	521	2113 0 6
Williams's Crown Copper Company	112	566 15 7
Sims, Willyams, and Co.	479	1857 4 3
Williams, Foster, and Co.	1191	4945 0 4
Schneider and Co.	59	300 7 8
Total tons	3961	£16,735 18 6

Copper ores for sale on Thursday next, at Tyack's Hotel, Camborne.—Mines and Parcels.—North Pool 500—East Wheal Crofty 478—Camborne Vean 450—Wheal Seton 420—Tincroft 370—South Wheal Basset 358—Fowey Consols 304 Condurrow 256—Wheal Mary 209—East Pool 204—Dolcoath 155—South Wheal Frances 150—Creeg Braws 88—Wheal Tryphena 6.—Total quantity of ore to be sold, 3948 tons.

Copper ores for sale on Thursday week, at Andrew's Hotel, Redruth.—Mines and Parcels.—Carn Brea 884—Tywarnhayle 420—Par Consols 366—Wheal Tremayne 139—West Wheal Seton 130—West Wheal Buller 127—Wellington Mines 106—Wheal Rodney 89—Wheal Agar 87—Charlestown United Mines 70—South Wheal Fortune 43—Trenance 16—Francis's ore 12—North Godolphin 10—West Wheal Providence 9.—Total, 2508 tons.

COPPER ORES

Sampled May 2, and Sold at Swansea, May 24, 1849.

Mines.	Tons.	Prod.	Price.	Mines.	Tons.	Prod.	Price.
Cobre	106	12½	£9 7 0	Burra Burra	9	20	£13 18 6
ditto	83	13	9 8 0	ditto	69	29	20 17 6
ditto	66	21½	15 10 0	ditto	68	27½	19 14 6
ditto	64	21½	15 10 0	ditto	50	27½	19 12 0
ditto	63	21	15 10 0	ditto	25	28½	20 10 0
ditto	59	21	15 0 0	ditto	53	29½	21 9 0
ditto	22	15	10 12 0	ditto	52	30½	21 6 0
ditto	100	14½	10 11 6	Knockmahon	101	9½	6 13 0
ditto	96	14	10 0 0	ditto	67	10½	7 7 0
ditto	74	13½	10 0 0	ditto	43	8½	5 15 0
Burra Burra	76	30	22 5 0	ditto	25	8½	5 13 6
ditto	74	29½	22 5 0	Berehaven	118	10½	7 1 0
ditto	72	29½	21 5 0	Burra Burra	56	30½	21 9 0
ditto	70	29½	22 5 0	ditto	41	29	21 8 0
ditto	69	30½	21 16 6	Ballymurtagh	55	6½	4 11 0
ditto	67	30½	21 17 6	ditto	39	4½	2 14 6
ditto	24	31½	23 1 6	ditto	2	42½	26 0 0
ditto	66	30½	22 1 0	Guildford Slag	55	5½	3 5 6
ditto	60	30½	22 0 6	ditto	36	5½	3 5 6
ditto	51	29½	21 10 0	Vine Slag	12	4½	2 11 0
Burra Burra	49	29½	21 1 0	ditto	10	3½	2 0 0
ditto	48	29½	21 8 0	Chili	8	44½	31 5 0
ditto	47	31½	21 16 6	Cronebane	3	41½	27 10 0
ditto	46	30	22 1 6	ditto	1	9½	6 0 0
ditto	44	29½	21 1 0	Tigrony	3	41	27 0 0

TOTAL PRODUCE.

Cobre	733	£8638 10 0	Ballymurtagh	96	£408 10 6
Burra Burra	629	13823 13 0	Guildford Slag	91	298 0 6
Burra Burra	560	11670 0 6	Vine Slag	22	50 12 0
Knockmahon	236	1553 4 6	Chili	8	250 0 0
Berehaven	118	831 18 0	Cronebane	4	88 10 0
Burra Burra	97	2078 12 0	Tigrony	3	81 0 0

COMPANIES BY WHOM THE ORES WERE PURCHASED.

	Tons.	Amount.
English Copper Company	182	£2801 14 3
Freeman and Co.	161	2495 10 0
Grenfell and Sons	386	4943 11 6
Sims, Willyams, and Co.	300	4884 0 9
Vivian and Sons	891	13517 19 6
Williams, Foster, and Co.	585	9126 4 0
Schneider and Co.	92	2003 11 0
Total tons	2597	£39,772 11 0

Copper ores for sale June 7.—Cobre 77, ditto 75, ditto 71, ditto 70, ditto 67, ditto 66, ditto 58, ditto 99, ditto 86.—Burra Burra 63, ditto 62, ditto 51, ditto 49, ditto 12, ditto 52, ditto 50, ditto 48, ditto 47, ditto 40.—Berehaven 126, ditto 118, ditto 104.—Burra Burra 70, ditto 66, ditto 40, ditto 18, ditto 69, ditto 35, ditto 65, ditto 62, ditto 60, ditto 4, ditto 33, ditto 13.—Knockmahon 107, ditto 45.—Ballymurtagh 57, ditto 44.—French Slag 27.—Total quantity of ore to be sold, 2290 tons.

NOTICES TO CORRESPONDENTS.

*** We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.

"A Correspondent" (Lowndes-street, Belgrave-square).—Every possible pains are taken to render the Mine Share List as perfect as possible; but, with all our care, errors will unavoidably creep in, for the correction of which our correspondents always have our warmest thanks. We can assure the writer that the consideration of the subject is no new affair to us, as he appears to suppose, by recommending us to "take it in hand." The revision of this list is one of the most unpleasant of all our hebdomadal duties, from the difficulty in obtaining a fair standard value between buyer and seller; we have, however, lately given a range of three prices, which will generally approximate very nearly to the average worth of the several shares. An authenticated statement of particulars of the union of the two mines mentioned shall be attended to.

"H. B." (Cabrales).—According to Humboldt, the gold imported into Europe from America in the three centuries ending with 1800, was estimated at 375,000,000*l.* sterling, and the silver at 1,280,000,000*l.* sterling.

"E. M. L." (Ougrée).—We have received our correspondent's communication on Count de Werdinsky's letter in the Journal of the 12th inst. He very justly observes, that it is *not true* that the glorious uncertainty of chemistry is only to be compared to the glorious uncertainty of the law; but that in analysis, conducted by able experimentalists, and by methods of ascertained correctness, there is no uncertainty. The analysis of gaseous mixtures, such as that of the products of decomposition of gun-cotton, are particularly delicate operations, but when conducted with all necessary precaution, the results, in almost all cases, are positive, correct, and devoid of uncertainty. Our correspondent believes, and we think his supposition correct, that the gun-cotton analysed by different chemists, was, in truth, of different composition; the method of preparation may be much varied—nitric acid may be employed either alone or mixed with different portions of sulphuric acid; the cotton employed may be dried at different temperatures, and it may have been soaked in the acid during a greater or less time, and all these circumstances influence its properties, and consequently its composition. But when cot on, prepared in a similar manner, has been examined by careful experimentalists, concordant results have been obtained: thus, Pelouze's formula, which is carbon 21, hydrogen 17, oxygen 17, has been entirely confirmed by the analysis of Flores, Demonté, Menard, Payen, and Poinsol, while Messrs. Schmidt and Heckers merely differed in one equivalent of hydrogen—a circumstance easily accounted for—the latter having been dried at only one-half the temperature of the former, and consequently containing more water. Our correspondent states that he has come forward in the hope of vindicating chemical analysis from the imputation of "glorious uncertainty," unthinkingly cast upon it by the Count.

"A. Z." (Liverpool).—Elba has long been famous for its mines of iron, which were known in the days of the Romans. Virgil mentions it as "Insula inexhaustis chalybum generosa metallis."

"Contractor."—We have no doubt an offer to undertake the working of the line our correspondent mentions, properly supported with the names of respectable parties as securities for the due performance of the contract, would meet with every attention from the directors, notwithstanding that they had not invited competition on the subject. The principle of accomplishing the railway traffic under contract is becoming highly popular, and we believe it to be the only means by which the salvation of the majority of railway companies will be effected.

Imperial Brazilian Mining Association.—In our remarks in last week's Journal, on the prospects of this undertaking, we stated that Capt. Hitchins, of Devon Great Consols Mines, was going out to Brazil, in the employ of the association. This was an error; it is Capt. Joel Hitchins, of Great Wheal Rough Tor, who goes out as chief commissioner and principal mine agent, and sails, we believe, in the next packet, on the 4th of June.

"H. B." (Camborne).—Krokydolite is a rare mineral, which is found in the locality of the Orange River, in Southern Africa. The colour is lavender, or indigo blue; it is found in fibrous masses, which are flexible and elastic, like asbestos; lustre silky, not magnetic, nor affected by water or acids; the minute fibres are fusible at the flame of a spirit lamp; the mineral itself melts before a strong red-heat into a black opaque, magnetic globule; with borax, it forms easily a transparent green-coloured glass.

"G. B. C." (Brighton).—The first system of life assurances was that of Tontines, invented by Lanrence Tonti, a Neapolitan, in 1653. The plan was this:—A certain number of persons clubbed together a specific sum annually, without reference to age or sex; at the expiration of each year the interest was divided amongst the subscribers who were living, and so on from year to year, until the last survivor received the whole of the interest. In 1689, the last survivor of a tontine in France was a widow, who at the period of her death, at the age of 96, enjoyed an income of 73,500 livres (3062*l.* 10*s.*), for her original subscription of 300 livres (12*l.* 10*s.*) The first assurance company founded in England was the Amicable, in 1707; the next were, the London Union, 1714, the Royal Exchange, 1720, and the London Assurance, 1721. There are at present above 130 insurance offices in Great Britain and Ireland, which have an established name.

"Miner" (Redruth).—Graphite, commonly called blacklead, contains no particle of that mineral. It is mineralogically known under the name of plumbago; it contains a considerable quantity of carbon, with a small proportion of iron; that of Cornwall consists of 96 carbon, 4 iron; its colour is iron or steel grey. It has a glistening metallic lustre, a granular and uneven texture, is unctuous to the touch, sectile, and the thin laminæ very flexible, not very brittle, with a shining lead-colour streak. Before the blow-pipe, it becomes yellow, or brown, after long continued heat, but is infusible, nor is it affected by the addition of any reagent. It belongs chiefly to primative rocks and the coal formation. The purest and most esteemed plumbago is found at Borrowdale, in Cumberland, where it occurs in rocks consisting chiefly of grauwacke, and whence it is obtained in considerable quantities for the manufacture of pencils. It occurs likewise at Pargos, in Finland, in Greenland, in the United States, in Norway, in Ceylon, and many other places. In addition to its being extensively used in the manufacture of pencils, graphite is employed in the fabrication of crucibles, particularly those required for the purposes of the Mint, as they sustain intense heat, and are esteemed for their tenacity and expansibility. It is also used to diminish the friction of machinery, and to protect iron from oxidation.

"Aeronaut" (Chelsea).—A baloon of 22 ft. diameter will contain 5575 ft. of gas.

J. Browne (Portland-street).—According to official returns, the loss on old silver coin purchased by the Mint during the year 1848, amounted to 6501*l.*, the purchase money having been 182,783*l.*, and the Mint value 176,282*l.*

"F. L." (Chelmsford).—India-rubber can be dissolved by naphtha. It must be cut into small pieces, and placed in a jar; the naphtha is then poured over it. In a few days it will be found to have swelled considerable; if it be then thrown into a strong iron mortar, made hot, and well worked together, the spirit and the India-rubber will combine in a slimy mass, and may be rendered liquid by the addition of fresh naphtha.

"An Engineer" (Sunderland).—The report of Mr. Dunn's lecture on "The prevention of Explosions in Steam Boilers," was published in our Journal of the 12th inst. Mr. J. Whitworth, of Leeds, proposes that every boiler should have an alarm guard made in the following way:—A small cylinder of brass, 6 in. long by 2 in. bore, should be fixed upon the boiler, and the piston weighted a little more than the safety-valve Attached to the piston should be the handle of a steam-whistle. When the steam in the boiler gets too high, and cannot escape by the safety-valve, the piston in the cylinder will rise up, and open the whistle, which will be heard over the whole works, and the engineer's attention called to the steam. Four cases out of six, he says, are occasioned by the firemen letting the water in the boiler get below the top of the flues, and then admitting a quantity of almost cold water into the boiler, which necessarily creates a sudden pressure, and often bursts it. This might be prevented, by having a steam-whistle attached to the float chain.

"N." (Westminster).—We have been unable to discover the maker of the so called "model penny."

"A Student" (King's College).—Copper unites with most of the metals and semi-metals. With arsenic, or zinc, it forms white tombac; with bismuth, an alloy of reddish white colour, with cubic facets; with antimony, a violet coloured alloy; with zinc, by fusion, Manheim gold, or by cementation with calamine, brass. In a solution of quicksilver it acquires a white surface, from the precipitation of the quicksilver. It easily mixes with tin; fused with it, it forms bronze, or bell-metal; with iron it contracts very little union; alloyed with silver it is rendered more fusible—these two metals are combined to form solder; added to gold, the gold is hardened, and its colour heightened. It precipitates silver from its solution in nitric acid. This method is used to separate the silver after the operation of parting. In separating silver from copper, as sulphur has a greater affinity for copper than silver, it is recommended to reduce the alloy into slag, by combining it with sulphur, to obtain the silver concentrated in a portion of the copper, which may be refined immediately, by cupellation.

G. Richards (Truro).—The tutwork men in Germany consume, on the average, to every pound of iron half that quantity of powder.

"L. L. B." (City).—Optical flint-glass, according to a recent receipt, is composed of—sand, well washed, dried, and sifted, 60 lbs.; oxide of lead, 60 lbs.; purified carbonate of potash, 15 lbs.; saltpetre, 3½ lbs.; cullet, from 15 to 20 lbs.

"L. G." (Daventry).—Potassium does not exist in nature as a mineral, but is obtained by artificial means. It was first discovered, in 1807, by Sir Humphry Davy. In colour and lustre it resembles quicksilver, is quite opaque, conducts heat and electricity, and is considerably lighter than water. It is highly oxidable, and even takes oxygen from water, on the surface of which it burns with a bright flame, by a succession of explosions.

"S. M." (Birmingham).—British gold can be formed by mixing one part of zinc alloy of iron with four parts of copper and manganese; and British silver, by mixing six parts of the zinc alloy of iron with two of nickel and ten of copper.

"Nauticus" (Deptford).—An invention for the elastic support of rigging has lately been patented. It consists of a long box of iron plates at each side of the ship, containing square blocks of India-rubber, divided by thin plates of sheet-iron. By a regulating screw, the rigging can be strained to any degree of tightness; and whatever strain is afterwards produced by winds, lurching of the vessel, or other cause, the spring, by its reaction, pulls the rope back to its place when the strain is removed.

"J. M." (Gwennap).—Auriferous iron pyrites is found in grains of a deep yellow colour, also crystallised in cubes. The gold it contains is but small, and exists, according to Bergmann, enclosed in the pyrites, in small angular grains, and, consequently, in a state of simple mixture. It is found in considerable quantities in the gold mines of Beresoff, in Siberia, and in Brazil, in detached crystals.

"An Artist" (Oxford street).—Daguerre's chloride of silver paper is thus prepared:—This, or unsized paper, is saturated, either by immersion or by means of a painting brush, with hydrochloric ether, which has become somewhat acid by long standing; it is then dried at the ordinary temperature of the air, or a little above it, dipped in a solution of nitrate of silver, or else the solution is merely applied to the surface, and dried in the dark, at a very gentle heat—because, while yet damp, it is not blackened by the calorific heat of luminous bodies—and kept closely pressed in a portfolio, to preserve it from light and air. This paper, when exposed to daylight, blackens very quickly; its sensibility is diminished by age. According to the kind of paper used, and the liquid, whether hydrochloric ether or some other liquor containing chlorine, with which it has been whetted, the colours produced by the light exhibit different tones. This paper blackens faintly and slowly in the light of a Locatelle's lamp with two wicks; still more faintly from the rays of iron heated below redness, provided these rays have not passed through a glass plate. Talbot's chloride of silver paper is made from good writing paper, steeped in a solution of common salt, wiped dry, in order to spread the salt uniformly over it, washed on one side with solution of nitrate of silver, and dried by the fire. This paper loses its sensibility in a few weeks, but regains it on being washed again with nitrate of silver, and in a still higher degree by being alternately dipped in a solution of common salt, moistened with nitrate of silver, and dried. When a light picture has been produced on this paper, it is immediately washed with solution of common salt, or iodide of potassium, to prevent the rest of the paper from blackening.

"D. W." (Ilchester).—The Kilsby Tunnel, on the London and North-Western Railway, is 2299 yards 2 feet 6 inches in length. It is driven about 150 feet below the surface. The two shafts, for light, air, and ventilation, are 6 feet in diameter. It is 30 feet high by 30 feet broad. The number of bricks used in its construction was 36,000,000. During the course of its erection the water rose from the quicksand, so that it was about to be abandoned. Under the direction of Mr. Robert Stephenson, who employed for eight months 1250 men, 200 horse, and 13 steam-engines, pumping up 1800 gals. per minute, the water was completely forked, and conveyed away.

"J. B." (Ashton).—Tobacco is a Government monopoly in Spain: the principal manufactories are at Alicant, Cadiz, Corunna, Madrid, Seville, Santander, Valencia, and Gijon. The largest establishment is at Seville, the smallest at Gijon.

"A Reader" (Cheapside).—The quantity of gas made, or lost by leakage, in London during the year 1848 was 3,200,000,000 cubic feet; to produce which about 330,000 tons of coal were used.

G. Cooper (Wolverhampton).—The mountain of Gellivara, in Lulea-Lapmack, is almost entirely composed of iron. There are large pine forests in the neighbourhood, but a very scanty population. It is the private property of the King of Sweden, who on several occasions has offered to dispose of it. A Captain Rosenberg, in conjunction with Mr. John Malam, of the Hall Gas Works, endeavoured to form a company for the purchase two years since; but, owing to the panic and other causes, they were unable to carry their views into effect.

*** We should feel obliged to all pursers, captains, or adventurers, to forward particulars of meetings, &c., of the mines with which they may be connected, on the earliest opportunity, that they may be published in the Journal.

*** The numerous disappointments in procuring back Numbers during the past year induces us to suggest, that subscribers should be careful in filing, or otherwise preserving, their papers; and where extra copies are required, that they should be applied for as early as possible.

*** It is particularly requested that all communications may be addressed—

To the Editor,
Mining Journal Office,
26, Fleet-street, London.

And Post-office orders made payable to Wm. Salmon Mansell, as acting for the proprietors.

THE MINING JOURNAL

Railway and Commercial Gazette.

LONDON, MAY 26, 1849.

The Mining Journal is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

In general terms, we are perfectly justified in stating, that the circumstances of the mining world have not materially changed since our last publication. The accounts sent up from the country exhibit great firmness in the prices of mining produce as a whole, and the quotations for shares in the London market are as favourable as any which have prevailed since the revival of mining business. We may describe the state of mining affairs in all the home districts as encouraging and satisfactory. Several old setts in the west of England have been recently re-taken, in the hope that, by a better method of handling, and the probable maintenance of remunerative prices, the works will be carried forward, under a new management, to the advantage of all concerned. We wish it was in our power to say that the disturbed districts of south-eastern Europe were settling down into a state of more assured peace and abiding concord. But things in that direction are, we fear, very little improved; still it would much exceed the probabilities of the case to suppose that those partial interruptions to social order, important as they are in themselves, can, unless very long continued, sensibly affect the general commerce of England, or its mining interests in particular. Their limited operation upon British trade is seen in the price at which the Consolidated Three per Cents. are maintained, which, varying for the last fortnight from 91 to 92, do not indicate that there is any apprehended storm at hand, for which we need lower our canvas, or tighten the ship. In every sense, therefore, as a mining community, we may look into the future with confidence, and expect to find, as the months roll onward, that events are giving to the general produce of these islands, wrought and unwrought, a more universal access to the markets of the entire world.

In the present state of the money market, when capitalists do not know how to invest their money, so as to yield them more than the rate which the Funds pay, it is astonishing that, amongst so many wealthy, so few are to be found willing to take the favourable opportunity which now presents itself of making investments in the staple manufacture of the country—viz.: that of iron. There can be no surprise that the unthinking will not avail themselves of it, because they only look at the surface of affairs; but of the many intelligent who have money lying idle, and who know that at this moment mines may be taken on very much better terms than those on which the greater number are held, and that all the expenditure necessary to bring them into a working state will be so reduced as to place them in a very advantageous position in respect to the trade in general, the unwillingness to embark in the trade *is difficult to account for.* Let prosperous times come, and then there will be numbers of capitalists ready to enter with spirit into the manufacture, and pay twice as much for every thing they have to take or make, either as royalties, or rents, or as the cost of erections, and they will then enter spiritedly into the arena of competition, with double the *incubus* to bear they would have had had they availed themselves of the *extreme ebb tide* waiting to be raised to high-water mark, instead of setting themselves down on the top of the flood to be carried to low. The iron trade is at this moment in an extremely depressed state, and very few works are really paying any profit. It is impossible this state of things can long continue; if they do, one manufactory after another will leave off working, until iron becomes scarce, and then those in a position to take advantage of the scarcity will enjoy a *harvest.* The history of the iron trade is a succession of ups and downs of this sort; and so long as there is material in the country to make more iron than can be consumed, so long it will be so.

Iron making may be compared to farmers keeping breeding stock, when the power of multiplication may be used beyond the power of consumption. Pigs of iron are like *live pigs*—the one may be made, the other may be bred, in comparison with the consumption of them, in almost illimitable quantities. Who that has ever attended markets has not known little pigs worth 5*s. only* one year, and, perhaps, the next those of precisely the same size and description may sell for *more than* 20*s.*? How is this? Why, because the majority of farmers, when pigs are of great value, keep breeding sows until they overstock the market with their young; and when they find the value of them so much reduced that they will not pay for breeding, fatten and kill them. There are some, however, who always make a point of preparing to increase their stock when the price is at the lowest, and find their account *in doing so.* In like manner would the adventurer in mining in bad times find his account in preparing to create pigs of iron, when the cheapness of his plant would enable him so to create them at much less than the usual cost; and to begin to do this, no moment can be more opportune than the present one.

There is plenty of choice—iron works, and iron and coal mines, are to be had in abundance, on reasonable terms, in either Staffordshire, South Wales, Scotland, North Wales, or the north of England. It may be a puzzle to know which county, or what description of works, to select. In each and every of them there is no reason to suppose that success will not attend operations, carried out with economy and skill; but, strange as it may appear, success is often *found* where the want of it has previously demonstrated the causes why it has not hitherto been obtained. North Wales, as a mining district, has been more unsuccessful than any other; and yet the advantage, in point of its locality to the best markets, in good coal and plenty of it, which can be got very cheaply, in ironstone, though not rich, good in quality, but which want of richness may be made up by the cheap transit of the iron ore of Lancashire and Cumberland, and which is most extensively used in districts where its cost is much greater; cheap labour, and abundance of it; communication by railway to the sea; and many other advantages, which, singular as it may appear, have not enabled it as a district to compete with others much behind it, in every respect, in all conditions apparently necessary to carry out successfully the iron trade. To those who know this is so, without being acquainted with the details of North Wales management, it is a matter of astonishment that failure has been almost the universal end of adventures in the iron trade there; but to those conversant with the system of making iron in other more prosperous districts, and with the proceedings of those who have so failed, it is most readily accounted for; for instead generally of works in this district having been worked, as a good architect would build, on a good foundation, the working of them can only be compared to a wall built upon the surface, which, as soon as it begins to totter, must be underbuilt to sound material. The system has been to open the mines on the crop, and from time to time to reopen them on the deep, as those on the crop are worked out, thereby multiplying the expenditure on them, and letting down all the ponds of water left in the upper workings as an unnecessary incubus upon the second opening, instead of beginning on the deep at once, making one opening serve for all. The want, too, of keeping pace with the scientific improvements of the day; and being satisfied to use lean ironstone, without getting a proper admixture, combined with the reason before named, has sunk the value of the North Wales coal and iron districts generally in public estimation. The fact of their not being high in the esteem of the public *will induce the owners of mining property in the district* to enter into arrangements with monied adventurers to work them upon terms which cannot be made with the owners of mineral property in any other; and in this respect alone, if there were no other advantages, and the cost of production were equal, would insure a handsome profit to the workers of it.

To those who have money to invest in industrial enterprises, and who have skill to manage and judgment to lay out iron-works, on account of the present extremely depressed state of the iron trade generally, and of the odium attached to the North Wales trade in particular, there are now opportunities of investing capital in a way which there may not be of doing again for years; for, under the present circumstances of the trade, the weakest must go to the wall, and it is impossible large ill-placed works, nearly worked out, can compete with new ones, erected under the most advantageous circumstances as to cost, and in the most favoured localities.

A tolerably strong case was made out in the columns of this Journal of Saturday last, against the policy of making further advances of money for the maintenance of English railways, or for the working of *foreign* lines. Of course, our correspondents do not mean, neither do we, that lines with respect to which a reasonable degree of economy has been observed in their construction, and the *bonâ fide* traffic returns of which, as well as the expenditure, are brought regularly before the public, are not an eligible species of investment, to those who want to purchase the safest and most productive stock they can find in the market. To such parties the whole question is an open one, whether railway stock in any of the lines is good, bad, or indifferent; and they will make up their minds and act accordingly. But the meaning is, that what is at best an indirect and a rambling railway, and whose original cost and working charges must, of necessity, dip very deeply into the productive powers of the line, and the quarterly statement of whose financial progress is not unreserved, full, and satisfactory; that with respect to lines having these deteriorating elements resting upon them, it would be unwise and impolitic for any man to link his own with their very doubtful fortunes. To this extent we go very freely in opinion with our correspondents. And secondly, as to the capital dedicated to the working of foreign mines, we have long been of opinion that it might have had a much more profitable direction given to it, but for the exaggerated views entertained in some quarters, of the mineral wealth of foreign lands. Notwithstanding the undoubted opulence of some districts which were never subject to the British Crown, and the nearly equivalent richness of others in the brilliant south which are, it is with us a question whether any of them can exhibit a mineral bed so magnificent, and so productive, as that which is spread out within the limits of these northern islands. The mines in question, however, if worked with British capital, are worked for British interests; and though, in many instances, there is scarcely a visible margin between their expenditure and their income, we should leave the lesson deduceable from such circumstances, to enforce itself by the most cogent of all methods—viz., by the ultimate profit or loss arising out of such distant and irresponsible undertakings.

It is not oft that we notice advertisements which appear in our columns, otherwise than by way of directing attention to the objects set forth as calculated to advance not only the interests of the projector, but the capitalist; yet there are instances, we regret to say, which form exceptions to the general rule, where we feel called upon to observe on projects which would appear to require some few words by way of caution; while, on the present occasion, we must say we feel the grounds perfectly justifiable, were it only from past experience and present knowledge. The prospectus of a company, entitled The London, Liverpool, and Dublin Coal Consumers' Company, is now before us, the object being stated as the "supply of the best coals to shareholders in the above-named towns, from their own mines, at cost price, and to the public generally on reasonable terms"—the company being constituted of 20,000 shares and 5000 debentures, of 2*l.* each, or a capital of 50,000*l.* We purpose taking the prospectus paragraph by paragraph, and offering a passing comment. *Imprimis*, "the company is to be conducted on the Cost-book Principle, under which shareholders are exempt from all liability beyond the amount of their respective shares." Now, albeit the Cost-book System, we contend, does not apply to the "Coal Consumers' Company," and if that the projectors wish to avoid the penalties under the Joint-Stock Companies' Registration Act, the company must needs be, at least, provisionally registered at the offices in Serjeant's Inn. No court, save that of the Stannaries, can recognise the Cost-book System, and hence it is not only an absurdity but a deception put forth, that the Cost-book Principle can be applied in the present instance. With the committee of management we have nought to say; the experience of more than one of its members in insurance companies, doubtless fit them for the offices they hold—institutions of such nature being, in most cases, established with regard to principle, and the observance of such rules as ensure success, if only properly supported.

We now approach the body of the prospectus itself. The object of the company, as already described, is stated to be that of supplying shareholders "with the *best* coals at *cost price*, without any intermediate agency of merchant, or *dealer*—thus saving (says the prospectus) the heavy extraneous charges to which consumers are now subject, and *securing* a *certain* and *prompt* supply of a good article, at *every* period of the year, at a *fixed and unfluctuating price*, and in any quantity." Now, it is in our recollection that some such a bait was the advantage held out by the Talacre Company, whose collieries were in the immediate locality of this El Dorado of the north. "Gas consumers," we are told, "have already taken the lead in breaking down monopoly in that department, which has resulted in materially reducing the cost of gas to the public;" "and," says the prospectus, "if coal consumers unite on the same principle, and become their own producers, they may secure their supplies of coals at *little more than one-half the average price* they have hitherto paid, without the heavy outlay and vast opposition to which gas consumers are necessarily subject." This little paragraph is so perfect in itself as a display of the ability of those with whom the company has originated, that we must needs say a word, *en passant.* Gas companies, or works, and collieries are perfectly distinct, and irrelevant to each other in any comparison which may be attempted to be made. It is a solitary instance where we find that rival companies exist, and, we need hardly say, these cannot be said to apply to the observation of "the heavy outlay and vast opposition to which *gas consumers* are necessarily subject;" while the projectors, if they be right in their announcement, seem to forget the advantages which would attend gas consumers by becoming shareholders, inasmuch that if the coal rendered would be at one-half the cost, their gas could be supplied at 3*s.* per 1000 ft. instead of 6*s.*, or in such ratio; for although there may be expenses attendant on the manufacture of gas which may act as a set off to this excess of profit, yet the sale of products, in the shape of coke, ammonia, &c., will yield more than the present return to the gas shareholder, while it diminishes the cost to the consumer. Gas may be said to be a monopoly where a large capital is employed, pipes laid down, supplies and communications made, and, in many instances, Acts of Parliament obtained, whereby such monopoly is secured. But we would ask, allowing all this to exist, how does it apply to the working of collieries? Do we ever hear of monopoly on the part of coalowners? Such idea is perfectly absurd; every colliery proprietor seeks a market for a demand equal to that which it is in his power to supply. Each proprietor endeavours to raise his coal at the least cost, and to obtain for it a market at the best price. This is perfectly legitimate, as the world is open to all, and the application of indus-

stry and capital will, at all times, meet its just reward. We must not, however, lose sight of the "supplies of coal being at little more than half price," the prices quoted being, in London, 14s. a ton; Dublin, 10s.; Liverpool, 7s.; pit's mouth, 4s. 6d. It would, then, appear quite clear from the prices here named, that the present coalowners are realising nearly 100 per cent. profit; while coal can be obtained so as to realise a dividend to the capitalist, after paying interest on capital, the small body of trustees, directors, viewers, engineers, agents, &c., at and after the rate of 4s. 6d. per ton at bank. It, however, sounds too much like Talacre. The next paragraph requires little or no remark. We are told the collieries are in the neighbourhood of Holywell, between Greenfield and Talacre possibly, "that the shareholders may depend on an ample supply, at a very low rate." Why impress this so strongly on the public mind? Surely there is sufficient common sense, so far as is necessary to establish, that if coal can be obtained in London at 14s. per ton, instead of 24s. per ton, there is a saving effected.

The next paragraph, which merely refers to the nature of the coal being "admirably adapted to steam, household, and general purposes," calls for no remark, as we presume the manufacture of gas (a cheap coal) is excluded. An analysis, by-the-bye, would be useful and instructive, as to its properties, and thus illustrating its advantages. We now approach the grand desideratum of the shareholder—the attainment of his household fuel at a reduced cost and a profit besides. Now, let us see how the matter stands. For every share or debenture the holder is entitled to 1 ton of coals per annum, at a reduced rate; while it has just occurred to us, that there is no mention made of the purchase money, of the meetings of share or debenture holders, or, indeed, one word calculated to secure public confidence. How know we but the purchase money, *à la Talacre*, is 120,000*l.*? We may be wrong; yet the question is one of no slight moment? and we are yet to learn what proportion of interest, as royalty or dues, are to be paid to the lord, in addition to the sums which the projectors may think fit to put into their own pockets. However, it would appear that "for every share or debenture the owner will be entitled to one ton of coals per annum at *cost price* (the amount being, we presume, somewhat a matter of conjecture), and *also* to his proportion of the *profits* of the company."

It is only fair to the projectors to advance their mode of reasoning, as to how all this may be effected, and that, in addition to the *reduction* of nearly 50 per cent. on the cost of the coal, a further addition of 20 per cent in the shape of interest shall be given on the capital invested—thus: 1 ton of coal at 14s., instead of 24s., would give 10s. per ton, which, on the capital advanced of 40s. would be equal to 25 per cent., then we are to have 20 per cent. profit, making together 45 per cent. The following form the data from whence such deductions arise:—"Assuming all the shares are disposed of (*q. e. d.*), which may not be requisite" (although, doubtless, most desirable), "the 25,000 tons required for delivery at cost price will be about three months, the calculated profits or saving on which may be stated at about 6000*l.* This profit," says the prospectus, "is given to the shareholders in the shape of reduction in the price of coals; besides which they will have the remaining nine months' profits on the general sale to the public." This is really too pretty to be allowed to pass unnoticed, and a simple analyses will, we doubt not, place this before the public in a far more pleasing manner than the projectors even could have contemplated. We will, however, at once to figures—25,000 tons for the share or debenture holders; this quantity would be raised in three months at the rate of 2000 tons per week, or, in other words, 320 tons per diem. To effect this, we presume that the collieries must be opened, shafts sunk, engines erected, agents employed, directors, paid secretary and clerks, and, in fact, rather a large monthly cost sheet incurred beyond the mere cost of raising. Assuming the consumption of each share or debenture holder, as ordinary consumers, at the rate of 10 tons per annum, we should then require 2500 shareholders. We may, however, be met by being told that many will consume 500 to 1000 tons per annum. Our reply then is simply this—they will never become *shareholders*. We have, however, 75,000 tons to dispose of, and which we presume are contemplated at the market price, which, if sold, would give 37,500*l.* profit.

There is a paragraph which talks about transferring orders for coals, or have their *value* added to their dividends (if dividends be payable), less 5 per cent. commission. The representations put forward, as to the liabilities of shareholders under the Cost-book System, have already been shown to be a delusion, and with the last few observations put forward by the projectors, we shall conclude our notice of this company, which has occupied more than the ordinary space we devote to subjects of so comparatively insignificant a character. We are told that "the London ton of coal, besides being mixed with inferior stuff, frequently weighs only 16 cwts., instead of 20."—this really is a charge so heavy, and, as we believe, so difficult of proof or support, that we may take leave of the company with the simple remark that, if they cannot place themselves before the public in a position which will ensure success on their own merits, they will never advance one single step by declaiming against others, or endeavouring to support themselves at their expense.

It is sincerely to be hoped, and we think on reasonable grounds, that the recent exposure of the nefarious tricks of some of our railway magnates has happened at a critical, and, in many respects, fortuitous moment, and in the case of more than one company, when they were just upon the verge of utter ruin—the explosion occurring most timely to snatch them from the precipice towards which they were rapidly advancing. The lesson conned by the shareholders in railway property has been a severe one, and has not been learned without the infliction of some sharp chastisement, which, however, we have no doubt has carried with it its own cure. Blind confidence in men of more brass than merit will no longer be the distinguishing feature in the character of railway companies; nor will there longer be tolerated that system of peculation, exorbitant charges, fees, and favouritism, in the supply of stores and materials, which has hitherto been an incubus on the traffic returns, and one of the great drawbacks to railway prosperity. We have already repeatedly directed the attention of our readers to the great change which is rapidly taking place, and which will, most probably, in a few months, be general throughout the kingdom, in the mode of carrying out the traffic details by contract—a change which, we have no doubt, will be productive of the most beneficial and profitable results. We have now to notice another feature of change—a proposal, if it can be fairly and properly carried out, which will tend not only to the advantage of companies and contractors, but to the comfort and safety of the public—we allude to a document which will be found in another column, being an address by Mr. G. B. Thornewcroft, of Wolverhampton, letting the public into some of the secrets of how railway directors and shareholders have been *done* in the article of iron alone. To remedy the evil, Mr. Thornewcroft comes gratuitously forward; is about to erect a spacious shop, nearly adjoining his own establishment, to be fitted up with an hydraulic press and other testing machinery, and offers it for the use of railways for testing tire bars, axles, and other iron for machinery, free of all cost. It will be seen that, whenever a supply of wheels or axles are required, he recommends that the prices of different makers should be obtained of each mark or brand—that they should be sent and tested by this machinery—and that the best in quality should be decided by parties, chosen from a kind of jury of 10 persons, of high practical standing as ironmasters, and whose characters are above all suspicion. And further, that when on delivery in bulk any suspicion arises that iron inferior to sample has been supplied, he invites an average portion to be looked out, and sent to his testing machinery; a proceeding which if the ironmasters knew would take place, they would, for their own sakes, supply an article equal to the specimen the order was given from. However difficult Mr. Thornewcroft may find it to carry out his proposals, the public are certainly indebted to him for this highly liberal, single-minded, and disinterested act; and we shall be most happy to find that there is yet sufficient independence and public spirit among the *eminents* and railway officials to second that gentleman in his praiseworthy endeavours; and the contract principle, and some such plan of iron assay, will place the railway system in a state of healthful vigour for the present, with still brighter prospects for the future.

The more the subject of working railways by contract is discussed, the closer and deeper its several details, advantages, and difficulties are brought under consideration, the more feasible and legitimate does the plan appear. We have not met with an individual practically connected with railway traffic, who does not coincide in the opinion that parties will readily be found capable of carrying out the whole railway traffic of the kingdom by contract, and, under such circumstances, that there will be no fear but that the work will be efficiently performed, and the safety and convenience of the public properly secured. The general feeling appears to be surprise that so evidently beneficial an arrangement for all parties concerned should not have been thought of and acted upon years ago. It is, however, seriously to be hoped that capitalists who, either individually or collectively with others, are turning their attention to this new enterprise will not attempt too much, and thus fall into the very error from which companies are now endeavouring to extricate themselves. We alluded last week to an advertisement of Mr. Watson, of Matlock, inviting a few gentlemen of capital and railway practice to form a society for undertaking traffic contracts, and, it will be seen in parenthesis, including maintenance of way; and we find our contemporary, the *Railway Record*, highly approves of this suggestion, considering that "the contractors should engage to do every thing connected with working the line and keeping it in proper condition—so that the companies should be liable to no expenditure, beyond the salaries of their secretary, manager, clerks, check takers, and a few other subordinate officials, whom it would be desirable to have under their control." Now, we do not quite agree that contracts for working the traffic should include the maintenance of way; nor do we think it would be by any means desirable or likely to prove so advantageous as if left under the management of the company. In the first place, we feel satisfied that contractors will find quite enough to employ their most vigilant and active faculties, and those of their *employées*, in the regular, safe, and correct management of the traffic, and the continuous additions, repairs, and general judicious arrangements of the rolling stock, without having their attention distracted by undertaking work of a totally different character. Further, we think the safety of the public would be better consulted by companies still adhering, as before, to maintaining their own line of way; for, should it be included in the traffic contract, it must be accomplished under the inspection of the company's engineers, and we think it probable it would give rise to much dissatisfaction, and even ill feeling; at all events, if it is desirable that the maintenance of way should be taken out of a company's hands, it appears to us important that it should, at least, be taken by another party. To carry on the traffic with regularity, safety, and advantage, a contractor should have his whole and sole attention and means devoted to that one end, by which he would be enabled to execute contracts with half-a-dozen companies in a vastly more efficient manner, than if saddled with the *onus* of supporting the permanent way.

Another point of some moment is the length of time for which contracts should be taken. We hear of one company having entered into an arrangement for 10 years with a responsible party, who undertakes to work the line for 1s. 3d. per train per mile, of course finding coke, labour, and keep the stock in repair; and at the end of the term he is to give up the plant in as good condition as he received it. We cannot help thinking this too long, and agree with our above-mentioned contemporary that a maximum of *five*, and a minimum of *three*, years would be more desirable and advantageous for all parties. The contract system is, however, yet only in embryo, and, of course, some caution is necessary at starting, a very few months will develope all its capabilities, which we have not the slightest doubt will prove highly advantageous both to contractors and shareholders, and greatly productive of the interest of the public.

RAILWAYS IN IRELAND.

The numerous and important advantages which must naturally follow the introduction of a general and complete system of railways into Ireland has been so often repeated, and so universally acknowledged, that it would be perfectly superfluous to dwell upon a point so clearly evident; the great question is the development of the best means to bring about so desirable an end. Much has, indeed, already been written on the subject, but we have perused a pamphlet with much pleasure and edification from the pen of Mr. George Preston White, C.E., and published by Mr. Weale, of Holborn, in which, we think, he takes a very proper and unsophisticated view of the advantages of the introduction of railways into Ireland—the means at command, the geographical facilities which the country affords, the very low cost per mile at which they might be completed, and the improvement which would ensue to the agricultural, mining, manufacturing, and commercial interests in every district throughout which this rapid mode of transit shall be carried out. This essay is in the form of a letter to Lord John Russell, from which we shall now proceed to give a few extracts. He states his object to be the pointing out how the enormous expenses which the companies have had to contend with in England may be avoided in Ireland, that lines may be constructed in Ireland which, while they form a safe and desirable investment for capitalists, would produce the happiest results in improving agriculture, affording means for reclaiming waste and bog lands, extending that important but hitherto neglected branch of industry and commerce—the deep sea fishery—in turning to advantage the western harbours, calling into existence new branches of trade peculiar to rapid transit, and giving a general stimulus to the industry and enterprise of the country. What the opening of new roads will effect, he anticipates from what has taken place on previous occasions. He quotes Mr. Nimmo, the engineer, who, in his report to Government on the opening out of new roads in the County Galway, says—"In the district surrounding Clifden no revenue was paid to the State prior to 1822. In 1826 taxes to the amount of 2500*l.* were collected, and in 1828 they had augmented to 6080*l.*, marking a consumption of exciseable articles, and thus proving indisputably the increased wealth and improved condition of the people." Other instances are adduced, the most remarkable of which, perhaps, was in the county of Cork, were on an expenditure of 60,000*l.* in roads and bridges, the Customs and Excise receipts were immediately augmented 50,000*l.* a year, attributable entirely to the facilities by which whole districts have been rendered available for productive purposes, and a miserable and pauper population converted into a class of consumers. Respecting the vast stores of wealth which lie neglected in the western seas, he compares the present state of Ireland's fisheries with those of Holland. Some of the finest and rarest kinds of fish abound on these shores; yet so isolated are the districts, that at the present time there are only about 60,000 persons employed in the fisheries throughout the whole of Ireland. In Holland, when at the zenith of her prosperity, out of a population of 2,400,000, 450,000 received direct employment from her fisheries; while in Ireland, with equal facilities, out of a population of upwards of 8,000,000, only 60,000 persons are so employed; so that, while in Holland one-fifth part of the population are so employed, in Ireland it only reaches to the 136th part, and which is the more remarkable 6,500,000 are Roman Catholics, who adhere strictly to the eating only of fish on fast days. Having shown many of the advantages which must arise from the establishment of rapid transit, and the causes of the great cost of construction in England, arising from the cost of land, large sums required to pass the Standing Orders, and get a bill through Parliament, with the extravagant outlay and unnecessary cost of actual construction, he proceeds to an estimate for a single line of railway, which might be worked in the first instance until the traffic was developed, securing, of course, sufficient land for a double way, and this including land, compensation, parliamentary, law, engineering, and all other expenses, he brings under 9000*l.* per mile.

Mr. White next proceeds to show how severely the method of taxing railway property bears upon its prosperity, the parochial taxes alone paid by seven companies per acre per annum being as follows:—London and North-Western, 13*l.* 6s.; Lancashire and Yorkshire, 14*l.* 10s.; London and Brighton, 14*l.*; London and Dover, 14*l.* 6s.; Great Western, 9*l.* 16s.; London and South-Western, 7*l.* 16s.; Midland, 7*l.* 6s. He then calls attention to the often recommended expedient—emigration; and shows that, although half a million of people have emigrated from Ireland during the past two years, such reduction of the population, so far from producing any beneficial result, has been the cause of throwing a large portion of land out of cultivation; for, instead of effecting the removal of that useless class of drones who are the bane of Ireland, and thus becoming a national blessing, it induces the small farmers to leave, whom it would be desirable to retain in the country, for they take with them not only some capital, but what can be ill afforded to part with, a certain amount of energy and industry. The points mooted by Mr. White, and the lucid manner in which they are treated, must carry conviction to every reader who may not be already convinced of the imperative necessity of some bold and wise measure being adopted for the resuscitation of Ireland; and recommending the pamphlet to the notice of all, we will close these remarks with those appropriate lines from Thompson, which appear in the title-page:—

> "Oh! is there not some patriot, in whose power
> That best, that godlike luxury is placed
> Of blessing thousands—thousands yet unborn,
> Through late posterity? Some large of soul,
> To cheer *dejected industry*; to give
> A double harvest to the pining swain,
> And teach the labouring hand the *sweets of toil*?"

Chlonoform has been used with success as a motive power in several steam-engines now working in Paris—the vapour acts exactly like steam, and while it exerts its power on one side of the piston, is condensed on the other. The alternate vaporisation and condensation can be continued with very little waste of the chloroform, and a much less quantity of fuel is necessary than in an ordinary engine. Marine engines on this principle are now being constructed in Paris, and should it succeed on a large scale, there can be no doubt it could be extended to locomotives, in which case a great saving would result, not only in coke, but in wear and tear, as locomotives on this principle would be less bulky, and consequently of a less weight, while it would not be necessary to load the tender to half the extent, to take fuel for the same distance.

THE NEW HUNGARIAN TARIFF.

The expectations we held out in a recent number of this Journal, that the establishment of a popular Government in Hungary would open a new and extensive market for British manufactures, is on the point of accomplishment. So long as the authority of the Emperor Ferdinand was acknowledged in Hungary, even the most ardent wishes of the people were subdued out of respect to the monarch, whose abdication was assumed to be the result of a court intrigue, which the victory of Kossuth would reverse. The appeal to Russia, however, presented an unexpected obstacle to the accomplishment of this wish. A new course was forced upon the nation, which was thus menaced from a new quarter. Instead of directing the resources of Hungary to the re-establishment of a sovereign without issue, and undertaking to teach the Austrian courtiers how to govern the magnificent empire which is crumbling to pieces under their rule, the Hungarians thenceforth determined to use their advantage against Russia, and to throw the war into Poland. Their whole force, as we are on the best authority informed, will in future be directed to aiding the Poles to recover the independence the Magyars have achieved for themselves. But no other method of abandoning Austria to its own politics and its present rulers was deemed feasible, than by severing the bond which fettered the fate of Hungary to that of the Austrian Empire. The Hungarians would not run the risk of sharing a policy of which they renounced the guidance, and, as a natural result, Hungary has been declared independent of a country, which it now only looks upon in the light of a province of Russia.

The Act of Independence was voted in full Diet nearly a month since, immediately upon the discovery that the Russians were preparing to march. M. Kossuth, the head of the Council of Regency, which until then had acted in the name of Ferdinand V., was elected to the post filled in former times by the famous John Hunnyady, that of Great Captain of the kingdom, until the Diet shall elect a king. The first act of the new magistrate has been to gratify the wish of the Hungarians as far as is in his power, by throwing open the trade of the kingdom. We have prefaced the information given to us on this subject, which must soon become one of primary interest for our manufacturing and mining districts, by the political details with which it was accompanied. Both are from a source deserving implicit confidence, although from the circumstance that no official connection has as yet been opened either by France or England with Hungary, there are no means of notifying formally the acts of the Government *de facto*, to friendly nations. The policy that has been observed towards South America, Mexico, Spain, and France, of course renders it impossible that the courts of Europe can refuse to recognise, even for a short time, a state of such magnitude as Hungary; but it is necessary that our readers should be in possession of all the facts of the case, to guide them in commercial speculations. This will serve as our excuse for having dwelt more upon the political side of the question than is our wont.

We have then been *officiously* informed, that the captain-general, in the plenitude of his power, has ordered a provisional tariff to subsist until the Diet shall finally determine the question of customs' duties. By this decree the following regulations for the admisson of foreign wares are established—

Colonial wares and medicines are admitted	Free.
Raw materials for manufactures	Free.
Arms, ammunition, accoutrements, saddlery, horse millinery, &c.	Free.
Woollen clothing of all kinds	Free.
Cotton goods and clothing Silk goods, &c. Hosiery	An *ad valorem* duty of 15 per ct.

We most willingly comply with the wish expressed, that we should contribute to make this liberal tariff public. Considering the size of the market thus opened, and which in our last notice of the subject we estimated to contain 20,000,000 of consumers, mediately and immediately made accessible by the opening of the Hungarian ports on the Adriatic, our miners and manufacturers cannot too soon be apprised of the existence of a field on which they are sure to meet their German and Belgian rivals. The drawback at present to the occupation of this field, lies in the fact, that the Magyar army, being drawn to the north, has not yet opened the port of Fiume, from which Hungary can most easily draw supplies. The want of foresight in allowing the Russians to close the Danube, is hence strikingly apparent. Were it not for this impediment, the route through the Black Sea, by Wallachia and Moldavia, would be open—an expensive route, no doubt, but still one that is known, and, to a certain extent, available. From Galaez, goods might be sent in commission to Belgrade, where we have a Consul-General; and the merchants of Jassy and Bucharest would not prove wanting in means to forward goods to Transylvania; still the risk of sending wares through the mouths of the Danube, now altogether in the hands of Russia, must be carefully considered. Fiume, on the Adriatic, besides being much nearer to us than the Black Sea, is connected to Hungary by an excellent road over the mountains; and the large navigable rivers form excellent channels of distribution, as soon as the basin of the Danube is attained. There can be little doubt but that the detatchment of General Bem's army, which, by the last accounts, had overcome all opposition, and had scoured the country to the frontier river, Save, will push on towards Fiume, and secure the connection with the sea, it may be hoped, without vexatious opposition on the part of the Croatians. The Crontians are, however, by no means so formidable an obstacle in this direction as the Russians are in the other; for they are not numerous; and a large portion of this fraction of South Hungary is favourably disposed to the Magyars. We may, at a future day (for we doubt not that the importance of this subject will justify our often recurring to it) show more at large the errors on this and other matters connected with Hungary, which have been unwarily propagated by the daily press. For the present, we confine ourselves to announcing this partial fulfilment of our prophecy, and congratulating our merchants and manufacturers upon the event.

Machine for Manufacturing Envelopes.—M. Rémond, of Birmingham, has just constructed a very ingenious and complete machine for the manufacture of envelopes. The machine, we are informed, does its work in a very efficient and admirable manner—the envelopes which it turns out being more perfect and uniform in their construction than those produced by hand in the ordinary manner—but the quantity of work which the machine accomplishes is the most astonishing. Supposing it to be turned by manual labour, one man, with the aid of three or four young girls or boys to gather the envelopes, would, it is calculated, by its means, be able to manufacture from 30,000 to 35,000 in an ordinary working day, the paper being cut beforehand; while an expert hand, in the ordinary way, exclusive of the cutting, cannot, upon the average, make more than 2000 in the same manner as those in question, which have a device stamped upon them at the point where the seal is usually placed.

The Spanish Quicksilver Contract.—Letters from Madrid of the 14th inst., state that no bidder whatever having appeared for the quicksilver contract, it is thought most probable that the quicksilver on hand will have to be sold on account of the Government, and that the same may be the case with the future proceeds of the Spanish mines. The minimum price fixed by the Government was $86 per quintal, which, in fact, was the rate at which the contract was taken some time back by the Fomento Company; but the latter found itself unable to carry it out, and was ultimately excused from fulfilling its engagements. The highest price ever given by Messrs. Rothschild's house was $72 per quintal; they had the contract at one time at $48 per quintal, just half the price at which it has now been fixed by the Government, which, however, was probably guided by the fact of a Spanish company having agreed, though it was unable to complete the contract, to take it at that price.

California.—The spirit of adventure aroused by the discovery of the gold regions appears not to be confined to English or American adventurers, but is equally, if not more, active among the capitalists of Hamburgh, Germany, and France, as several opulent companies have been formed for the purposes of trade, as well as exploration, in this portion of the new world. The first portion of miners, chiefly Austrians and Prussians, have already taken their departure from Hamburgh and Bremen, well supplied with necessary provisions and implements, who will soon be followed by a second party of experienced men. Several French vessels have also proceeded from Marseilles, Bordeaux, and Havre-de-Grace, with mining engineers and general cargoes of merchandise, to San Felipe and San Francisco. Although a few Cornish miners have sailed from Liverpool to those regions, English adventure has hitherto been confined more to commercial enterprise than mining, while the United States have combined both on a large scale. A regular line of packets will shortly be established from New York, Philadelphia, and other ports, for the cities of the American shores on the Pacific, round Cape Horn, the first having already sailed; and an overland route is being arranged to California, to avoid the difficulties of the isthmus of Panama.

Depreciation of Railway Property.—It is estimated, on the authority of witnesses connected with railways, who have been examined before the House of Lords, that the alarm lately occasioned by recent disclosures has had the effect, taking the aggregate of railways, of depressing that species of property to the extent of 10,000,000*l.* or 12,000,000*l.* during the last three months.

Original Correspondence.

VALUE OF MINERAL TRAFFIC ON RAILWAYS.

SIR,—The statement in your valuable paper respecting the proportion of tonnage supplied by the Whitby Stone Company to the York and North Midland Railway caused much surprise in this locality, particularly when the manufacturing population of the districts to the west of that line is considered (which exceeds that of London), and more so, after hearing the late chairman descant on the mercantile and coal traffic to and from those places to Hull, &c. On inquiry (although it be not official is near the truth), I learn that the Whitby Stone Company have supplied the Whitby branch of the York and North Midland Railway with about one-half of the stone and mineral that has traversed that part of the line—consequently (exclusive of passengers and goods) minerals on six miles of that portion of the railway next Whitby have furnished one part in twelve of the whole tonnage, one part in thirty-six of the revenue from goods traffic, and one part in seventy-six of the whole revenue of the York and North Midland Railway Company; and I further learn that this traffic is worked by a small four-wheeled engine. The above demonstrates of how much greater value minerals are to a railway than manufacturing traffic, and had Mr. Hudson boldly pushed forward his intended line of railway by Castleton to the north, and united the hematite of the western Esk (Ulverston) with the argillaceous ironstone of the eastern Esk (Whitby), with the Durham coal-field in the centre, he would have created a manufacture of iron and of traffic not second to any district in the kingdom.

Whitby, May 23. A CONSTANT READER.

RAILWAYS AND MINES—BY AN ENGINEER.—No. II.

"The mistake does not lie in this, replied Sampson, but in the author's making Sancho still ride upon the very same beast, before he gives you an account of his being found again. To this, said Sancho, I know not what to answer, unless it be that the historian was mistaken, or it might be an oversight of the printer."—*Don Quixote.*

SIR,—Gay's *Fables* is an excellent and instructive book, and is ever interesting as being redolent of nursery reminiscences, yet it must be admitted that "Placer" has not been quite so felicitous as he usually is in extracting a motto from it. Before he "suspects a tale untrue," he should hear the whole of it, and not "confound the credit of a book," before it be written. But "Placer," perhaps, meant it to be admonitory, and, like the great anatomist, can determine the size and nature of an animal on inspecting one of its smallest bones; if it be so, he may rest assured that both his advice and skill are duly appreciated. The communication to which your correspondent refers, was merely introductory to a discussion of this interesting question, and "Placer" is somewhat premature in replying to what he terms "the gist of the letter," without waiting for the arguments which might be offered in support of the opinion expressed at the conclusion of it. In resuming the subject, it will be expedient to reserve further comment on No. 3, until "Placer's" previous papers are noticed, in which there is so much to admire, that it is not without reluctance one is induced to differ with him in the opinions he so ably advocates. With a strong bias in favour of mines and against railways, as a means of investing capital, he fearlessly drags into the controversy an array of figures which he ingeniously makes to tell a fearful tale of disastrous losses incurred by railway speculations, but is quite oblivious as to similar calamities ever having befallen investments in mines.

> "Time hath, my lord, a wallet at his back,
> Wherein he puts alms for oblivion—
> A great-siz'd monster."

And if the weekly returns of the prices of mining shares which appear in your Journal be taken as an index of the profit and loss incurred by them, "Placer" has been a very liberal contributor to this wallet, as a few extracts from its contents will abundantly satisfy even the most sceptical of your readers.

As regards railways, "Placer" takes the difference in the prices of the Great Western shares between March 10 and April 28, amounting on the total number of shares (253,200) to 733,000*l.*, as a real loss in seven weeks in one railway! This is a bold averment, to say the least of it; but to constitute even its probability, he should have shown that the whole number of shares were bought and sold at the respective prices. Some time ago these shares were at upwards of 130 per cent. premium; applying the same principle, therefore, it is clear the original investment was long ago reimbursed, and, instead of a loss, an enormous profit has been realised. For, if such a mode of estimating loss be admitted, it is only fair to extend it to the profits also; and if it be deemed absurd in the one case, it is equally so in the other. If all the holders of shares did not realise these large profits, the fault was theirs, and ought not to be attributed to the railway, which, having once, and for a considerable time, enabled them to double their capital by withdrawing it, has done all that a good investment can be reasonably expected to do. So far as the original holders are concerned, therefore, there is no just cause of complaint. After having once amply reimbursed the capital invested in it, it is surely too much to expect any adventure to respond to the avaricious demands of reckless speculators, who, without a due consideration of the times and circumstances, purchase shares at a period when wiser and more prudent men are anxious to sell them. For, independent of manias and panics, property in railways is subject to changes in value from extrinsic circumstances, like land, houses, &c., as well as to mutations arising from inherent causes; and it requires as much, if not more, foresight and prudence to purchase this kind of property as any other; yet how rarely are these virtues exercised in this way, and how many lamentations we hear of losses being incurred which ought to be solely attributed to this cause, rather than to the nature of the investment.

Reserving further observations upon railways generally as a means of investment, and taking it for granted that the foregoing reply to "Placer," on his mode of estimating the value of a railway, will be to his conviction, and the satisfaction of your readers, it may be interesting to refer to the column in your Journal alluded to, and try the effect of "Placer's" principle of valuation on mines. It appears that of 200 mines, 80 are at a premium, 12 are at par, and 108 are at a discount. At a distance of seven weeks, the following depreciation has taken place—viz.:

Number of Shares.	Paid up.	Mines.	1849—Price 31st March & May 19th.		Difference.
1000	£8	Abergweasin	....£8	£3	£5,000
256 ...	9½	Caradon Copper Mine	.... 2½....	1¼	256
128	45	Comfort	.... 80	65	1,920
6000	1½	Heigneston Down Con.	.... 2	1¼	3,000
		Loss			£10,176

Others might be added; but these are sufficient to show the effect of the principle in question. Here, then, according to "Placer's" plan, is a loss in the seven weeks of 10,176*l.*, which is equal to nearly 40*l.* per cent. on the subscribed capital; whilst the loss sustained in the Great Western Railway, as stated by "Placer," did not amount to 10*l.* per cent.!

If, therefore, the superior claims of either interest be determined by such a test, it is in favour of railways, and not of mines; but such a mode is fallacious, and constitutes no test, either comparative or otherwise. It is well known that most of the transactions in railway shares on the Stock Exchange are "for the difference;" and that the approach of a heavy settling day, the prevailence of rumours, well or ill-founded, and a thousand other causes, extraneous to the real merits of the line, depress or raise the price of the shares. The number of shares that are sold by one investor to another are very few—the majority of those that are really transferred being purchased by speculators for temporary purposes. So long, therefore, as the dividends are maintained at a remunerative amount, those who have invested capital in them, in the usual acceptation of the term, are uninjured by the fluctuations of the Stock Exchange prices, except when they are obliged or are persuaded to sell their shares. So long as the majority receive their 4, 6, or 10 per cent., it matters little to them at what price the shares may be sold. To suppose, therefore, that the whole capital of the Great Western, or any other railway, is transferred from one party to another once in seven weeks, or in any other fixed period, and that an enormous loss is incurred in consequence of the depressed state of the market, is too imaginative a statement to be admitted as data on so important a question. The true value of a railway ought not to be taken from the Stock Exchange lists; but deduced from a dispassionate inquiry into its merits and prospects as regards its capital and revenue, which, when compared with other public or private securities, would show the true relative estimate of it for investment. AN ENGINEER.

May 29.

ON THE CONSUMPTION OF SMOKE.

RESPECTED FRIEND,—Numerous plans have been lately patented for consuming the smoke in furnaces, some of which are evidently of little value; and I question whether any plan will succeed, except by arranging the furnace in such a manner as to allow the gases to pass over the red-hot coals near the bridge, or by allowing them to pass *through* the fire, as suggested in thy columns; but I have found, by experiment, that an efficient plan for increasing the draft in the furnace is to place a small tank under the fire-bars, keeping it constantly filled with boiling water. The heat from the fire keeps a constant flow of steam through the bars, and, decomposing, yields a supply of oxygen and hydrogen in the furnace. I believe a jet of steam rushing in the furnace has been already proposed, and possibly has been patented; but the water gives a more uniform supply; possibly, however, this plan has been patented also. Perhaps some of thy readers can give us some information on the subject, as scientific men may feel interested in knowing where licenses are granted, and also what should be the size of the tank, and the dimensions of the bucket with which the hot water should be poured in; in short, the whole of the claims of the patentee.—JOHN DE LA HAYE: *Liverpool, 5th mo.* 22.

STEAM NAVIGATION—MARINE LOCOMOTIVE.

RESPECTED FRIEND,—I feel greatly obliged to E. Galloway, C.E., for his impartial observations on my proposed plan for constructing a marine locomotive—observations the more valuable, when contrasted with the remarks of those who dogmatise and assert on every subject which they pretend to understand. It appears that a similar plan was proposed by a French engineer, about 20 years ago, and he viewed the subject in the same light as myself; but I suppose that thy correspondent is the only individual who ever attempted practically to test its value by an experiment, which, of course, was too imperfect to be considered conclusive of itself. The details of the machine which I proposed to construct are very different to those alluded to. Mine could not be top heavy, as the axles would pass through the vessel instead of under it; and the form and arrangement of the globes would render it as safe as a life-boat—in fact, I am confident that there would be no difficulty in adopting the plan, either on a small or a large scale; but it is possible that little would be gained by adopting this principle, if, as stated by thy correspondent, the friction is so very trifling. I regret that thy talented correspondent, John Curr, should have taken the trouble of making a calculation, based on the supposition that I proposed to construct a globe, 100 feet in diameter, with copper half an inch thick. I proposed to place a light narrow vessel between six floating wheels, of 36 ft. diameter, not perfectly globular, but nearly of the form of paddle-wheels, and round only below water-mark—the copper not being more than $\frac{1}{16}$th of an inch in thickness—that is, for a vessel intended for ascending rivers. I proposed to combine strength and lightness in the structure, in which I believe there would be no difficulty at all—in fact, this has been already attained to a great extent in vessels used in shallow rivers; several, indeed, are now in Germany drawing less than 2 ft. of water.

R. Mushet may be correct enough when he says that "John Bull has a large stock of credulity, except when any real improvement is brought before him;" but he finishes by treading in the same track himself—as he places the road-locomotive and the electric light on a par with the scheme for converting bar-iron into gold, although the two former have been tested as regards the practicability, and only require time to be brought to sufficient perfection to be adopted economically; while as to the transmutation scheme, he would have displayed a little more impartiality had he placed it with the wonderful things which, as a geologist, he has seen with his own eyes, and which of course, coming from such a quarter, were believed by scientific men, although, probably, "they would not had they seen them with their own." He may rest assured that I do not attempt to draw on the credulity of any one. In the plan which I have proposed I have not advanced any thing as an assertion, but as a suggestion; and I am glad to find that it has been received as such by thy other correspondents. If the plan proposed is of no great value, I will be among the first to condemn it, and depreciate it in the eyes of John Bull.—JOHN DE LA HAYE.

Liverpool, 5th mo. 22.

ELECTRO-MAGNETISM AS A MOTIVE-POWER.

SIR,—In your last week's Number, I observe your able correspondent, Dr. Murray, calls attention to the models exhibited at the Egyptian Hall by Mr. Davison, of Edinburgh, in 1842, consisting of a saw mill, turning lathe, printing press, a very powerful magnet, and a locomotive-engine running on a circular railway, all set in motion by a galvanic battery. I paid several visits to this interesting exhibition, feeling much interest in the subject, and believing that the time will arrive when success will crown the efforts of those who are endeavouring to apply this mysterious power to large mechanical utility. The difficulty Mr. Davidson, like all who have gone before him, or since, had to contend with was, the very minute distance from the object to be attracted at which the magnet acts with any thing like its maximum force, and the consequent impossibility of obtaining any length of stroke by direct lineal action; nor could the means adopted by Mr. Davison, though exceedingly ingenious, be carried out to any powerful extent with any thing like sufficient economy to render it in the smallest degree a competitor with steam. Of all the arrangements which I have yet seen described, that of Mr. S. Hjorth, in your paper of the 5th inst., appears to me to approach the nearest to success. His plan of introducing conical solid magnets into hollow magnets, after the fashion of cylinder and piston, was a happy idea, and his series of iron rods of different lengths and corresponding openings, enables the magnetic power to be transferred from one to the other as the piston descends, until its full power is developed just previous to the poles coming into full contact. I am very anxious to see the result of the large engine which is stated to be now erecting, and which is to have a 13½-inch stroke; for if this works satisfactorily, and gives out any thing like the power estimated it ought to produce, according to the power of the battery, and the cost to produce that power, I think we may expect the time is not distant when this power may be economically applied to locomotion, and every description of machinery. With your permission, I will send you some further observations, when favoured with an inspection of the new engine, which, I was given to understand, would have been completed a fortnight since.

Newgate-street, May 23. A. Z.

ECONOMY IN LOCOMOTION—ATMOSPHERIC LOCOMOTIVE.

SIR,—Some time ago, I think about the beginning of April, a paper and diagrams were sent, descriptive of a new system of railway propulsion, to the institution of the Society of Arts, for the purpose of being brought forward at one of the Wednesday evening meetings of that august body, but owing to the exhibition it has been delayed. In this description was explained an arrangement, termed the "atmospheric locomotive system," by Mr. J. Weston, with the principles of which your readers are already partially acquainted; but there is one feature in the arrangement, perhaps the most philosophical in the whole scheme, which has yet received little or no publicity. I allude to the means proposed for generating steam for supplying the cylinder, which, in practice, cannot fail to insure the necessary supply, and no more, and of making available the whole of the heat evolved in the combustion of the fuel; and should Mr. Weston's estimate be only an approximation to the truth, we shall have a load of 40 or 50 tons conveyed at a high speed, or double that weight at a moderate speed.

You did me the favour to insert a communication in your last Number, in which I suggested an arrangement by which the heat absorbed by the attenuated air in the vacuum pipe might be turned to good account. I will now go so far as to express an opinion, that the time will come when heat for working atmospheric railways, and possibly for other purposes, will be obtained from the atmosphere free of all cost, and with far less difficulty than by the present mode of obtaining heat from coals or other fuel.—AN ENGINEER OF THE NEXT GENERATION: *May* 23.

[Our correspondent will observe, that we have taken some liberties with his letter, in excluding all that portion relating to the gun-cotton engine; while we thought it might be desirable to retain that portion of his remarks on Mr. Weston's atmospheric locomotive. We have adopted this course from having, in last week's Journal, stated our intention to decline all further correspondence on the subject, excepting a general reply from Count de Werdinsky, and it would, therefore, be manifestly unfair to insert any communication thereon after such anannouncement.]

SCIENTIFIC CHALLENGE—ELECTRIC LIGHT.

SIR,—The press have lately repeatedly brought under public notice various experiments made on electric light. Most of their reports are highly favourable to my patent system, while others are said to be eulogious in favour of my opponent, Mr. Staite. The consequence of this is, that a doubt may exist in the public mind as to the respective pre-eminence and merits of both inventions, which it is important to remove. It seems to me that the best means of enabling the public accurately to judge and decide in the matter is a public comparative experiment, for ascertaining the power, brilliancy, and regularity of the light produced, as also the simplicity, energy of the battery, its expenses, &c., after Mr. Staite's and my system. I, therefore, most kindly beg hereby to challenge Mr. Staite to a complete comparative experiment, in presence of the whole scientific body and the public in general, relying entirely on their judgment of the two modes. I leave to that gentleman to appoint the time, spot, &c., that will best suit him; and feel confident that he will find this a fair trial, under the sentence of which I promise to yield. CHEVALIER LE MOLT.

Conduit-st., Bond-st., May 21.

MESSRS. RICHARDSON AND Co's ROLLED BRASS TUBES.

SIR,—I noticed Messrs. Richardson's reply to "Spectator's" letter, in last week's Journal; and as these gentlemen appear to be desirous of claiming a novelty in their patent, I would refer them to the patent taken out, in 1840, by Alexander S. Stocker, for rolling brass tubes through grooved rollers upon a mandril, which is precisely Messrs. Richardson's plan; and, as no claim is urged by them in their specification, I consider their process an infringement upon Stocker's patent, and that it possesses no improvement whatever. MECHANICAL ENGINEER.

Birmingham, May 24.

RICHARDSON AND Co.'s PATENT BRASS AND COPPER TUBES.

SIR,—I beg to trouble you with the following reply to the letter of "W. H. Richardson, Jun., & Co.," in your last Number, though indeed the coarse and insolent manner in which that letter is penned might reasonably have excused me from all further communication; but lest silence should be construed into acquiescence with their statement, I cannot let the matter pass by without notice.

I am accused of meddling with a subject of which I know nothing, and of applying my "native ingenuity to the purpose of perverting the truth." Whether I know little or much of the subject in question, it is quite clear "W. H. Richardson, Jun., and Co." know *much less*—they follow in my wake, they cannot lead—witness their begging inquiry at the foot of their letter. And as to the gross charge of "perverting the truth," I leave your numerous readers to decide between us; but I again repeat that tubes or cylinders of copper and brass, *of all sizes*, are now, and for years past have been, regularly manufactured by the process of rolling on a mandril through a pair of grooved rollers, such as those described in your paper, and for which the Messrs. Richardson have, as they state, obtained a patent. And that those gentlemen may have some idea of the larger-sized cylinders so manufactured, I might mention that they are 12 inches in diameter, 9 feet in length, and a quarter of an inch in thickness. Messrs. Richardson may, perhaps, again accuse me of "perverting the truth"—be it so. Facts are, however, stubborn things, and are not to be upset by mere accusations. Had "W. H. Richardson, Jun., and Co." written their communication in even temper, and with a better spirit, I might, and probably should, have been induced to have gone into detail, and to have made known where the manufacture which I have quoted is, and has been, carried on; but their unwarrantable attack upon me has quite prevented that course being adopted. I do not profess to be so great a philanthropist as to apply my "native ingenuity" solely for the advancement of science. Messrs. R. would, however, have us to conclude that they are all self-denying—the public good being their only aim—*credat Judæus.* I will now only notice the charge of withholding my name, and all I will say in answer is, that had circumstances required, or the necessity of the case demanded, my name would have been given as fully and as legibly as the signature of "W. H. Richardson, Jun., and Co.;" but, as things are, I again, in spite of the objection raised, claim the title to, and subscribe myself—

May 25. OBSERVER.

P. S.—I have not at all alluded to the *patent* now in being for the manufacture of copper and brass tubes without joints, and by which, as I before mentioned, the most perfect tubes are made. I deemed it better to confine myself to the subject matter of the patent claimed by Messrs. Richardson, and to show that their *modus operandi* was not *new*, but *old.*

ENGLISH LOCOMOTIVES IN FRANCE.—The Northern Railway Company, since its extension to Calais, now run their extra trains and employ locomotives on Crampton's principle, and travellers may now go from London to the French capital, *viâ* Dover, in 13 hours; from Paris to Brussels in 10 hours; and to Cologne in 21½ hours. The Paris and Orleans and the northern lines were the first to employ English locomotives, and which caused great jealously on the part of the French engineers. Since the revolution the republic has been more liberal than the preceeding Government, and at present English engines are becoming more general on all the lines. These engines are not shipped to any of the French ports, but enter France by way of Belgium. and then to their local destination by means of the northern line. The revision of the French tariff, particularly as regards British machinery, iron, and coal has been proceeded with, and will come into operation soon after the installation of the new National Assembly. The republic is evidently desirous to carry out the free system gradually, as the means of increasing their own trade and commerce, and opening up a more lively intercourse with this country.

SUGGESTED IMPROVEMENTS (?) IN RAILWAY SIGNALS.—A Mr. Thomas Coggan, of Castle Donington, Leicestershire, has suggested, through the columns of the *Derby Reporter*, a plan for signalising the driver of the approach of trains to a station, or of danger on his route at times when the ordinary day or night signals cannot be discerned from heavy fogs, or from being intercepted by high embankments, curvatures in the lines, and other obstructions. The invention is certainly the emanation of a mind fraught with ingenuity; and not only throws in the shade all those simple signals which would naturally strike us as being most appropriate consisting of different colours by day, shrill whistle and loud bell in fogs and by night, but may also be considered a sort of *railway train shower-bath*, to be used as circumstances may require. He proposes to erect at two stations, two miles apart, two water tanks, at an elevation of 20 ft., and connected together by a leaden pipe, running underground the whole distance, with a stop cock at each end, about 4 ft. from the ground. At each end, and at every half mile, perpendicular standard pipes are to be raised a little higher than a locomotive funnel, and bent over in form of a syphon. To give notice to the further station of the starting of a train, the stop cock is to be turned at the first one, and the water will flow over all the pipes simultaneously; and to give notice to a driver, in case of accident or obstruction, the water is to be allowed to flow—so that, in passing under any of the upright pipes, he would be instantly apprised that something was wrong; "and (says the writer) even in heavy rains it would be easily distinguishable from the ordinary pattering of rain." We should think it would; and can conceive nothing more delectable for the engine-driver and his steker, on a frosty foggy night, than a drenching jet of cold water from this novel shower-bath; we have no doubt he would be instantly apprised of something *wrong*, and can believe that he would continue to wish himself *all right* to the end of his journey. The idea might be usefully extended beyond merely signalising. Open carriages might be attached to trains, which might be designated by the words "migratory baths," and would no doubt be *warmly* patronised, particularly by those numerous patients who prefer the *cold* water cure; and, as the services of the men who have hitherto had to wash the carriages might be dispensed with, companies would be considerable gainers by this continuous locomotive ablution. Seriously, however, it is painful to find men, with some claim to inventive ingenuity, waste their time on such shadows—on arrangements which a little reflection must show are so liable to misapplication, and even danger, as to be worse than useless. He suggests a plan also for a train signalising its own approach to a station by means of a lever—the short arm of which is provided with a hammer to strike a bell; the other end projecting just over the rail. At certain expedient distances, a succession of small inclined planes are fixed, which, raising the lever alternately, continues to strikes the bell, and gives the driver notice to slacken his speed. This is somewhat of a feasible plan; but here Mr. Coggan is anticipated by the signal patented by Messrs. Cunningham and Carter, which we have reason to expect will shortly be in operation on several of the London lines.

RAILWAY BRIDGES.—Upon the extension line of the Blackwall Railway, from Stepney to Bow, are two bridges, which are of a peculiar form, and the first of their class erected for railway purposes. The roadway upon them is supported on wrought-iron girders, placed transversely between two arches, or ribs, formed entirely of wrought-iron. The clear span of one is 120 ft., of the other 116 ft. 8 in. Each arch or rib of the latter bridge, which carries the railway over the Regent's Canal, is formed of a box built with iron boiler-plates ⅛ in. in thickness, and angle-iron firmly rivetted together, its breadth being 2 feet 10 inches, its depth about 2 ft., and sectional area 81 square inches, and is connected at the base by a wrought-iron tie-bar, which receives the horizontal thrust of the arch, and is formed of links having a total sectional area of 69 square inches, bolted together with bolts 2¾ inches in diameter, aided by eight others at each joint, ¾ inch in diameter. Between the tie-bars and the arch a system of vertical and diagonal bracing has been introduced, so as in a manner to distribute the weight of passing loads equally over the whole arch. These ribs so formed are laid in cast-iron plates, fixed at one end, and free to move at the other over rollers, so as to allow scope for the expansion and contraction of the metal. The clear interval between the bearings is 116 ft. 8 in., and the rise of the arch is 8 ft. to the underside of the box of which it is formed, the roadway being beneath the arch, and about 2 feet above the bottom of the tie-bar. The structure is exceedingly light; but appears, nevertheless, sufficiently strong to carry the weights which may come upon it in practice, as far as the areas of the arch and bowstring, or tie, are concerned, and has stood the test of a dead weight of 240 tons (in addition to its own weight of 59 tons), distributed in weights of 34½ tons at equal distances over its length, with a deflection of 3½ inches, and recovered entirely its original position upon the removal of the load. As this proof exceeds considerably any weight that can be brought upon it in practice, I am of opinion that it may be used with safety for the passage of trains; but as it is of so novel and light a construction, and the action of the cross-bracing and connection of the tie-bars have not been ascertained by continued experiments of moving weights, I should recommend that it be examined, more particularly as the weight of the whole bridge, including the double line of roadway and covering, only amounts to 194 tons, and is very easily set in vibratory motion by any moving power.—*Capt. Simmons's Railway Report.*

MANUFACTURE OF METALS.

[Specification of patent granted to Alexander Parkes, and Henry Parkes, of Birmingham, for improvements in the manufacture of metals, and alloys of metals, and in the treatment of metallic matters with various substances. Enrolled May, 1849.]

This invention in the first place relates to roasting the carbonates or oxidized compounds of copper, by placing them alone in a calcining furnace, or combined with any sulphuret, except that of copper, or an alkaline substance, acid, or their salts, and metallic iron, with the view to effect the subsequent process of smelting or reducing with greater facility. Should the compound of copper contain a smaller proportion than from 10 to 15 per cent. of the metal, the proportionate quantity of sulphur, either in its pure or compound state, is to be one quarter of the amount of the copper, and should the copper contain more than 20 per cent. of metal, the ratio is to be 1 of sulphur to 5 of copper. If the impurities contained in the metal be arsenic or antimony, so much chloride of sodium or barium, or muriate of ammonia, as shall be equal to either of these impurities must be made use of; but other impurities may be removed by the calcining process simply. The compound of copper is to be placed in a reverberatory, or blast furnace; the purifying compound just mentioned being added thereto, mixed with an equal amount of some carbonaceous material, by small quantities at a time. A current of steam, air, or other gaseous fluid is caused to impinge on the surface of the compound, generating sulphuretted hydrogen gas, and this acting upon the sulphurous vapours whilst passing to the chimney, assists the collection of the sulphur.

The carbonates or oxidized compounds of copper may be treated for the purpose of obtaining the metal therefrom, by employing lime or calcium, in the form of oleates, or stearates, or baryta, or any gum, resin, or fatty substance which may be readily obtainable. The chlorides of calcium, manganesium, strontium, or sodium, the sulphates of copper, and metallic iron may be added afterwards, taking to every ton of copper ore containing 30 per cent. of metal, from 300 to 500 cwts. thereof. Any suitable flux may be employed when the metal is difficult to fuse, but the patentees prefer to use a flux composed of two parts of chloride of sodium and one part coal. To obtain the metal from sulphuret of lead and carbonate of lead, they may be combined in the proportion of one to two, and subjected to the usual process to obtain the metal from both of them. To produce an alloy of zinc and copper, the patentees proceed by adding zinc in a metallic state, or by operating on the carbonates or oxidized compounds of the two metals.

In the manufacture of metallic alloys, the metal or metals is, or are to be, fused, and phosphorous added thereto during that operation. The metals used, and the proportionate ratio of them may be varied, and the patentees set forth tables in two sets, one relating to the manufacture of an alloy suitable for castings, and the other for sheathing printers' rollers, &c. This specification does not set forth any specific claim, the nature of which must be sought for in the tenor of the whole document.

ON PYROGEN.—No. VI.

BY JOHN JOSEPH LAKE, ROYAL LABORATORY, GOSPORT.

It may be doubtful whether the combinations in many of the cases cited, and, perhaps, even all except water, are not the result of catalytic action, and that pyrogen merely determines the combination of the different elements, without entering into the composition of the results. Such an assumption, however, in the case of the singular substance ozone, lead to consequences that few will admit. Its discoverer, Prof. Schönbein, gives HO_2 for its formula, in his paper "On Spontaneous Nitrification." (*Phil. Trans.*, 1846, p. 137). A writer in the *Athenæum* is of opinion that it will turn out to be "a compound, isomeric with the binoxide of water," Mr. Williamson infers, from his experiments, that it is a higher oxide of hydrogen than water, although not the peroxide of hydrogen of Thenard. I have published an opinion, that it is an oxide of pyrogen, and the general medium of oxidation; and Mr. Gann's view of the subject agrees in effect with mine, for he considers it to accrue when the metals are "put in a peculiar electrical state—that is, when they are in a state of transition previous to oxidation or combination." Whether my theory be correct or otherwise, it accounts, in the simplest manner, for some of the circumstances attending the experiments; for instance, the absence of ozone when the positive electrode is composed of one of the more oxidable metals, as zinc, with which the ozone enters too rapidly into combination to admit of its evolution; whilst with the unoxidable metals it is copiously disengaged. But it is to the mode in which ozone is obtained that we must look, in our present state of information concerning it, for its composition. It is evolved at the positive pole during the electrolysis of water, dilute sulphuric acid, solutions of phosphoric and nitric acids, and many oxy-salts. Mr. Gann also procured it from atmospheric air under certain conditions; also oxygen, nitrogen, hydrogen, carbonic acid, and nitrous oxide; therefore, if Professor Schönbein and Mr. Williamson, and the writer in the *Athenæum*, be correct in their view of the composition of ozone, hydrogen must contain oxygen, oxygen must contain hydrogen, and nitrogen must contain hydrogen and oxygen; and, if I am correct, oxygen is still reserved as an elementary substance, but hydrogen and nitrogen contain oxygen. In one point all agree—viz.: that oxygen enters into the composition of ozone. Now, we must either deny the existence of ozone, or admit that hydrogen and nitrogen are compounds containing oxygen, or the second substance in ozone. As to the existence of ozone, whatever may be its composition, this is proved beyond a doubt (though it is very unfairly excluded from works on chemistry), by the bleaching of litmus paper, or paper coloured with indigo, or a solution of the latter. A mouse was killed by it in five minutes, and its discoverer was once seriously injured by breathing an atmosphere charged with it. We cannot, therefore, avoid the conclusion, that hydrogen and nitrogen are compound substances, and contain oxygen, or the second substance in ozone. The want of means at present to prove what these gases are composed of, is no reason for not receiving the fact of their compound nature, when it is so clearly proved.

The peculiar electric condition of ozone shows that its composition is not due to the mere catalytic action of pyrogen, but that pyrogen is an essential ingredient in it; for, as was observed by Professor Schönbein, when perfectly clean and dry plates of platinum are immersed in oxygen containing ozone, they acquire a negatively electric state of polarity. Silver and copper also become thus electric, but in a far less degree than gold and platinum. The plates thus polarised retain their electric power in air for a considerable time, but rapidly lose it when plunged in hydrogen gas. Further, a plate of gold, or platinum, charged by exposure to an electric brush, is perfectly similar in its electrical powers to a plate charged, or polarised, by immersion in oxygen containing ozone; and heat, or exposure to hydrogen, which destroys, or inverts the electricity of such a plate, exerts a precisely similar action on plates polarised by exposure to the brush.

These are not mere ordinary electric effects; for if the point whence the brush is issuing be moistened with water, pyrogen still continues to be given off, but the power of polarising the plates is lost. (*Reports of the British Association*, 1840.) It is, therefore, most probable that the water absorbs the ozone, although it does not interrupt the passage of the fluid. From this it is clear that pyrogen is an ingredient in some shape of ozone. It may be assumed that ozone is a substance that retains pyrogen about it—like impure iron, nickel, and cobalt. Heat decomposes ozone, releasing or driving off its pyrogen; and in this it exhibits a remarkable analogy to magnetical iron and nickel, for these also lose the pyrogen to which they owe their magnetic properties by the same means—the former being deprived of it at a red heat; the latter at 660° Fahr.

There is something more than mere speculation and theory in the above; and the facts, of which the truth is clearly proved, deserve from their importance to be specially enumerated:—1. Pyrogen is an ingredient in, and essential to, the existence of ozone.—2. Hydrogen and nitrogen are compound substances, and contain oxygen, or the other ingredient of ozone, or ingredients, if more than one.

IMPROVEMENTS IN THE MANUFACTURE OF WIRE ROPE.—In the *Mining Journal* of the 17th March last, we drew attention to some important improvements in machinery for the manufacture of wire rope, invented by Mr. Andrew Smith, and which had been inspected by the Lords of the Admiralty, who were so satisfied with it as to suggest its application in the several dock-yards, which suggestion is, we believe, about being carried out. From an advertisement in another column, it will be seen that Mr. Smith's licensees have removed from Millwall to Wapping, where this new machinery is now in operation. We shall take an early opportunity of inspecting it at work, and give some further particulars in an early number.

A deputation from the iron trade of Staffordshire, headed by Mr. Thornely, M.P., and including Messrs. Foster, Sparrow, Barker, and W. Foster, had an interview on Tuesday with Sir George Grey.

THE RAILWAY INTEREST, AND THE IRON TRADE.

TO ALL RAILWAY DIRECTORS, SHAREHOLDERS, AND OTHER PERSONS CONNECTED WITH, OR HAVING AN INTEREST IN, THE RAILWAYS IN THIS KINGDOM, AND IN THE WORLD.

The railway system, or (if you please) its constitution, appears to have become so corrupt, at so early a period of its history, that, unless something is done to reform its abuses, it may become a great evil, instead of what it might be, a great national good; and it becomes the duty of every true friend of railways to do everything in his power to purify and improve it. Knowing, as I do, something of the nature of the evils complained of, and considering, from what is daily taking place in the railway world, I feel it is my duty to do all I can to purify the system from its present corruptions, and think this is the time to commence doing so. Railway directors are generally chosen from the most respectable classes in society, and I believe, in the main, are men of high honour and strict integrity, and I believe do the very best in their power, according to their judgment, to promote the interest of the shareholders in their respective lines. But these gentlemen, not having a practical knowledge of the quality and price (according to the quality in a great portion of the articles they have to purchase) have to depend upon the recommendation of others, who, I fear, have misled them to a most frightful extent; and I myself know of impositions upon different railway companies in this kingdom, where they have been mulcted out of the money which ought to have gone into the pockets of the shareholders to the tune of hundreds of thousands of pounds.

Now, with respect to the article of iron, I am about to lay down a plan to put an entire stop to this nefarious system of plunder, and to guard the directors against the possibility of being further imposed upon. Suppose a person to go and purchase a quantity of articles made of gold, at a certain price, according to certain fineness of quality; but if he was no judge of this practically himself, he may be made to pay a price, and not get value received, having paid for a mixture of copper, instead of all pure gold, and, therefore, he is mulcted out of his money. But suppose that the manufacturer is told that these articles, when supplied, will be tested by a sworn assayer of the metal, and, if found inferior, he will only be paid according to the pureness of the quality supplied, there would be no means of deception, and the purchaser would have value received for what he paid, without relying upon any one's opinion, but the man or men who had tested it, and given their decision upon oath.

Now I propose to put all railway boards of directors just in this position, when they want to purchase articles of the greatest utility for their use, on which depends the safety of the public in travelling, without asking or depending upon the opinion of any of their servants, or other persons, who are too apt to use their influence in favour of particular friends, &c., &c., (and these influences are often used to the loss and injury of the shareholders). Now, it is to relieve directors from this difficulty, of being thus imposed upon, that I am directing my attention to the subject; and when I know that in one instance where wheels and axles were ordered by a certain company, specifying the kinds of iron that should be used, the tires were to be of a make at about 20*l.* per ton. I saw these articles in the course of manufacture, when the parties were using, as near as I could form an opinion, about one-fourth of the make at 20*l.* per ton, and the other three-fourths at about 10*l.* per ton. I mention this only out of scores more of a similar nature which have come to my knowledge. When I hear of the Railway King issuing a decree that no tires shall be used upon any line of railway within his dominions but two makes, which cost about 20*l.* per ton, and these tires have been worked by two or three parties, to my knowledge, against some I could name at just half the price, and in one instance, after 10 years' trial, they could not discover any visible difference, nor say which was the best, or would wear the longest, those at 10*l.*, or those at 20*l.* In another instance, these two makes of tires were placed, one on one end the axle, and the other on the other end, and after inspecting them, year after year, no difference could be discovered, those at 10*l.* proved just as good as those at 20*l.* And yet the King's decree is that the shareholders' money shall be wasted in throwing away 10*l.* out of every 20*l.* spent in this article. These are only a few instances out of scores I could mention, which have been ordered by the Railway King, and some of the minor princes of railways. The companies must order the iron they select to be sent to the wheel maker's works, and keep him to the brand, to prevent wrong doing there.

When I hear a resident engineer (as he is called) expressing his opinion of a certain make of tires in a most unreserved manner, and condemning them in a very decided way, and in a very short time, I see a letter, by this same gentleman, written to be circulated all over the kingdom, recommending these said tires before any other make, I ask myself, is there not some cause for this sudden change? No doubt this conversation was forgotten by him, and he may think by others also (this I heard, and the letters I have seen), I begin to think within myself, what shall we come to next? Are we to force our iron into the market by means of testimonial letters, like the vendors of "Holloway's Ointment," and "Morrison's Pills," and all the other species of quackery? Away with such trash and humbug! It is an insult to the good sense and respectability of the ironmasters, and iron consumers too. I don't know exactly the price paid for the letter in question, but I am informed such letters can be had, in any numbers, at very moderate prices. The price is fixed, I believe, according to its merits in imposing upon the ignorant, and deceiving the unwary; in fact, the more dupes the greater the per centage is paid for these letters. There are many more means of imposition and deception which have crept into the railway constitution, which I can give written proof of, more than I can mention in this address. I think I have said enough to prove we want a reformation in the whole system; and by way of obtaining this object in part, I have determined to furnish the means at my own expense, and place it for the use of all railway companies, without any charge for the same, except the parties availing themselves of its use to pay the men they employ in working it. I am preparing a spacious shop or room, nearly adjoining our works in this town, which will be fitted up with an hydraulic press, and various other testing machinery; first, to test the strength and toughness of the axles; that axle which is the most difficult to break in two pieces, and will bear the greatest pressure, either by dropping weights upon it, or by forcing the ram of the press, is the best and safest. The tire bar that is found the strongest, soundest, and hardest, is the best for use. I shall fix machinery that will ascertain all these qualities to the greatest nicety and exactness; this machinery shall be for the use of all railway companies, free of any charge for its use, by me, without regarding at all who is the maker of the iron to be tested. If the company have any doubt of the sample quality being supplied in the bulk, let them, as often as they think proper, select some out, and send them to be tested, and they will soon put a stop to attempts at deception. Let the maker know this will be done, and you will be quite safe to have value received agreeable to sample.

When any railway company wants a supply of wheels and axles, let them get the price of the different makers of certain marks, and order samples, with prices, for each mark or brand; let them be sent and tested as before mentioned, and an accurate account of the quality sent, according to the decision of the judges or inspectors, and their decision to be given upon oath. I propose that 10 names should be fixed upon, consisting of respectable men, either ironmasters or engineers, or both, who have a practical knowledge of their profession—men above all suspicion; one to be named out of these 10 by the purchaser of the iron, and one by the maker, and a third by these two, in case they differ in opinion, (which I dont think likely) and whose decision shall be final; this decision to be given to the best of their knowledge and belief upon oath: these three persons to receive a fee, like special jurors, just for expenses and time. I think 10 respectable men can be found to undertake this thing, to accomplish so desirable an object; and if I am supported in it, I will spare neither time or expense to accomplish it to as near perfection as any human effort can approach; only let this plan be fully carried out, and the shareholders have security against a lavish waste of their property on the one hand, and the public will have the best security that can be given for safety of life and limb.

Now, by way of exciting attention to this important subject, and finding out, beyond all doubt, who can supply the best article at the most moderate price, I propose to test our compound axles, which we sell at 17*l.* per ton, against any other make of axle in the kingdom, (although some makers charge much higher prices); and I propose to do this for 300 guineas—the winner to have his 300 guineas returned, and the other to be equally divided between the Salop Infirmary, the Wolverhampton Hospital, and the Birmingham Hospital, 100 guineas to each, less expenses; and I will test a tire, charged at 17*l.* per ton, against any other make in the kingdom, for 200 guineas, the loser to pay one-half to the Wolverhampton Hospital, and the other half to Salop Infirmary, less expenses; that tire to be pronounced the best which is the strongest, soundest, and hardest. This offer shall stand open to the whole kingdom for 21 days; and, when this is decided with the great and mighty high-priced makers in the land, I will find something for the less-priced ironmakers to try their hand at. I think this will give the best article, at the price, to the public, and put an end to fraud, bribery, and corruption, which is the object of—

Shrubbery Iron Works, Wolverhampton, May 18. G. B. THORNEYCROFT.

OPENING OF THE SHROPSHIRE UNION AND SHREWSBURY AND BIRMINGHAM RAILWAYS.—The opening of these important lines, which will be the means of furnishing direct railway communication with the metropolis and the north to a large portion of the population and mineral produce of Shropshire, hitherto without these facilities, is fixed for the 1st of June. The Shropshire Union runs from Stafford to Shrewsbury, 30 miles in length, through a rich agricultural district, at a cost of 500,000*l.* The opening of the Shrewsbury and Birmingham line, being its first section, is from Shrewsbury to Okengate.

FURNESS RAILWAY.—This line is to be opened on the 1st of June, and experimental trains are being run from the Preston station to the river Calder.

LONDON AND BRIGHTON.—The opening of the Hailsham and Eastbourne branches of this company's line completes the Brighton and South Coast system of railways, at an expenditure, during 12 years, of 7,000,000*l.* sterling. The capital account, in conformity with the announcement of the chairman at the last meeting, will now be closed.

NEWRY, WARRENPOINT, AND ROSSTREVOR RAILWAY.—On Monday, Lord Newry and the directors made an experimental trip of inspection over this newly completed addition to the railway communication of Ireland. It will be opened on receiving the certificate of the Government inspector, and be worked on the new principle of contract.

LONDON AND NORTH-WESTERN.—The opening of the new station at Euston-square is to take place this day. The building extends 220 feet in length, by 170 feet in depth, and was designed by Mr. P. C. Hardwicke. It appears that no expense has been spared to make it convenient, spacious, and ornamental. The cost is said to be about 150,000*l.* This station contains all the necessary offices for carrying on the business of this great establishment, including a large room, 75 feet in length by 45 feet in width, for the purpose of holding the half-yearly and special meetings of the proprietors. Several of the new offices are already occupied, and when all the offices are removed to the new building the old station will be taken down. According to a report just presented to the directors by Captain Huish and the resident engineers, it appears that by reserving an annual sum of 20,700*l.*, at 4½ per cent., with compound interest, the permanent way of the London and North-Western, 438 miles in length, may be renewed as occasion may require.

It is said that Mr. Fraelich, the engineer to the navy-yard at Washington, has invented a self-acting apparatus to prevent collisions on railways. Two trains meeting at full speed are prevented by this application from coming in contact, without the help of either engineer or fireman.

THE RAILWAY ACROSS THE ISTHMUS OF PANAMA.—A letter from Panama, dated February 24, in the *Moniteur Industrielle*, states that the Aspinwall Company's engineers had arrived at Panama, and were then making a survey of the line of the projected railway. All preliminary preparations would be completed on the 1st July next, and the entire railway will be open for traffic on the 1st January, 1852.

We are informed that Mr. Alvan Penrice, of the Workington Colliery, has succeeded in winning a band of coal 12 feet in thickness, and of very excellent quality.—*Whitehaven Herald.*

Recipes.

[*Continued from the Mining Journal of May* 5.]

ARTIFICIAL ULTRAMARINE—AZURE BLUE—VIENNA OR MEISSNER ULTRA-MARINE.—Mix together 1 part of porcelain clay, 1½ part of sulphur, 1 part of anhydrous carbonate of soda, and keep the mixture at a dull red heat, in a covered crucible, as long as vapours are given off. On opening the crucible, it will be found to contain a spongy mass, part of which will be of a dark blue colour, and this is to be separated from the other part. The results of this process are not uniform, yet this is considered the best process that has yet been published.

ULTRAMARINE ASHES—SANDER'S BLUE.—The residue left after the extraction of ultramarine, according to the preceding process; the resinous cement being burned away, and the ashes washed.

STONE BLUE—FIG BLUE—THUMC BLUE—CROWN BLUE—MECKLENBURGH BLUE—QUEEN'S BLUE.—Mix finely-powdered indigo with starch paste, and make it into cakes of the required size and form.

MOUNTAIN BLUE—HAMBRO' BLUE—COPPER BLUE.—This is a mixture of carbonate of copper and chalk or lime, which is exposed to the air until it assumes the required colour.

TO FIX DRAWINGS IN CHALK AND CRAYONS.—The Marquis de Varrennes has discovered a method, which is equally simple and ingenious, of giving to drawings in pencils and crayons the fixidity of painting, and without injury. He succeeded in obtaining this result by varnishing them on the back; that is, by spreading over the back of the paper an alcoholic solution of white gum-lac. This solution quickly penetrates the paper, and enters even into the marks of the crayon on the other side. The alcohol rapidly evaporates, so that in an instant all the light dust from the crayons and chalk, which resembles that on the wings of a butterfly, adheres so firmly to the paper, that the drawing may be rubbed and carried about without the least particle being effaced. The following are the accurate proportions of the solution:—10 grammes of common gum-lac are dissolved in 120 grammes of alcohol; the liquid is afterwards bleached with animal charcoal. For the same purpose may be used even the ready-made paint that can be purchased at the colour shops, containing a sixth of white-lac, and adding two-thirds of rectified spirits of wine. After it has been filtered, there is nothing further to be done than to spread a layer of either of these solutions at the back of the drawing, in order to give them the solidity required.

FLEXIBLE IVORY.—It has been long known that in subjecting bones to the action of hydrochloric acid, the phosphate of lime, which forms one of their component parts, is extracted. Bones preserved in this manner retain their original form, and acquire great flexibility. It is by this process that M. Charriere, a skilful maker of surgical instruments, in Paris, softens the ivory of which he makes use to manufacture flexible tubes, probes, and other instruments. These pieces, after receiving the required form and polish, are steeped either entirely or partially in acid diluted with water, where they remain as long as required. The ivory, after having undergone this preparation, becomes supple, flexible, elastic, and assumes rather a yellowish colour. In the course of drying, it again becomes hard and inflexible; but the flexibility of the ivory may be restored by wetting, either by surrounding it with a piece of wet linen, or by placing sponge in the cavities of the pieces. Some pieces of ivory have been kept in a flexible state in the acidulated water for eight days: they were neither changed nor injured, nor too much softened; they had acquired no taste, nor any disagreeable smell. With respect to the excellence of the articles thus manufactured by M. Charriere, it may be observed that they have been examined by competent judges, and approved of by the Royal Academy of Medicine. The preparation of flexible ivory may give rise to various useful applications of it in the arts or in manufactures.

ULTRA-MARINE—LAPIS-LAZULI BLUE.—This beautiful and costly pigment is obtained from the mineral lapis-lazuli, which is broken into pieces about the size of a pea, heated to redness, quenched in water, and then ground to a fine powder. To 1 lb. of this powder is added 6 ozs. of yellow resin, 2 ozs. of common turpentine, 2 ozs. of beeswax, and 2 ozs. of linseed oil, previously mixed together, and the whole is made into a mass. This is kneaded in successive portions of lukewarm water, which it colours blue, and from which the ultra-marine is subsequently deposited, after allowing it to stand for some time. The first water is usually rendered dirty, and is rejected; the second yields the pigment of best quality. The process is founded on the property which the colouring matter (which this mineral possesses) has of adhering less firmly to the resinous cement used, than the foreign matter with which it is associated. The finest specimens of lapis-lazuli are brought from China, Persia, and Great Bucharia.

CHEAP AND INVALUABLE DENTIFRICE.—Dissolve two ounces of borax in three pints of water; before quite cold add thereto one tea spoonful of tincture of myrrh, and one table spoonful of spirits of camphor; bottle the mixture for use—one wine glass of the solution, added to half-a-pint of tepid water, is sufficient for each application. This solution applied daily preserves and beautifies the teeth, extirpates all tartarous adhesion, produces a pearl-like whiteness, arrests decay, and induces a healthy action to the gums.

CONSUMPTION OF LEAF GOLD BY BOOKBINDERS.—Some idea may be formed of the extent of the London bookbinding trade in the nineteenth century, when we state that the weekly consumption of leaf gold, enriching the exterior of books, amounts to about 3,600,000 square inches; and that the weight of paper shavings sold annually by the London binders, cut off the edges of books, amounts to 320 tons!

IMPROVEMENTS IN THE STEAM-ENGINE.—Mr. James Petrie, of Rochdale, has secured a patent for a peculiar arrangement of the slide and cut-off valves, by which the maximum of expansion, with its consequent economy of steam, is insured. By his arrangement, he avoids complexity of construction, loss of power from back pressure, and secures a constant regularity of speed and greater safety in working. It is, of course, quite impossible to describe the arrangement, in the absence of diagrams, with anything like accuracy. We can only say, that the arrangement consists in the method of connecting the cut-off slides to the other parts of the apparatus; in the peculiar arrangement of mechanism employed to produce the requisite motion of the cut-off slides; in the method of connecting the governor with the apparatus, in order to set the cut-off cam earlier or later by the action of the governor; and for indicating at what point of the stroke the steam is cut off. We are informed, that no less than 28 engines are already at work on this principle; and with numerous experiments with the same engines, driving equal loads, with and without the expansion apparatus gear, made with a steam pressure of from 5 lbs. to 20 lbs., a saving has been proved, ranging from 25 to 40 per cent., according to circumstances. Numerous testimonials are published of the efficiency of the plan as applied to old engines—among which we select one from Messrs. Walker, of Blue Pits, near Rochdale, as an average of the effect produced. Previous to the alteration, during 17 working days, the engine clock made 158 h. 35 m., consuming 2235 lbs. of water, and 434 lbs. coal per hour. After the expansion apparatus had been applied, during 18 working days, the engine clock made 171 h. 3 m., consuming only 1420 lbs. of water and 302 lbs. coal per hour—showing a saving of 36·47 per cent. of water, and 30·42 per cent. of coal.

LOCOMOTIVE FOR COMMON ROADS ON A NOVEL PRINCIPLE.—Our contemporary, the *Mechanics' Magazine*, gives a description of a locomotive carriage for common roads, in which, in lieu of the wheels, are substituted a succession of levers—thus obtaining, instead of a rolling, a stepping motion, somewhat similar to an animal; and, with a model of this machine, the inventor states, "that in 1845, at one time when there was snow, and at another with a thaw and soft mud, it drew twice its own weight, ascending an incline of 1 in 8 on the road from the Dysart Arms, Petersham, to the Star and Garter, Richmond. The impelling levers made impressions as clear as type under the press, not dragging or hanging on the path." It will be difficult exactly to describe the machinery without a diagram. We can, however, state, that the lever cases, or wheel part, consist of three concentric circles, or hoops, of iron, connected together by radial arms, on which are a circle of sliding levers, having at their ends friction blocks, shod with iron beneath, where they step, as it were, upon the ground. The levers slide through stuffing-boxes, fixed between the two outer hoops of the wheel, to keep them lubricated, and guide and ease the motion. On the lever frames being made to rotate, the levers are successively projected outwards to the full extent allowed by its stuffing-box; but almost immediately after passing the perpendicular line, an oblique guide catches against the inside of an eccentric piece, attached to the main body of the frame, which causes the levers to recede inwards again, and the blocks to follow the course of the eccentric, till they reach their lowest point of depression, where they first come in contact with the ground. As they escape from behind the eccentric piece, they come under the bite of two parallel pressure wheels, supported by bearings, thrown out from the frame of the carriage. The eccentric piece, or half circle, differs only one per cent. from the circle of the revolution of the levers. The motive-power may be given by manual labour or a small steam-engine.

CONCERT AT THE BRITANNIA-BRIDGE.—On Friday last a concert was held in one of the gigantic tubes intended to form the Britannia-bridge, about to be erected over the Menai. Candles, placed by couples in four alternating tiers (two and two), about 500 in number, illuminated the scene. The music, vocal and instrumental, was excellent, and traversed the immense length of tubing with scarcely diminished volume. The whole effect, to the eye as well as the ear, was most pleasing—the brilliantly-lighted perspective being at least 157 yards long. The breadth of the tube is nearly 15 feet, and its height about 30 feet. Upwards of 600 of the *élite* of the neighbourhood occupied the front of the orchestra, and the other end of the tube was crouded with working people. All appeared delighted with the proceedings. At the close, the national anthem having been sung, three cheers were given for the Prince of Wales, and three for Mr. Stephenson. The works at the bridge are progressing rapidly. A few weeks back, various tidal experiments were made in the presence of Mr. Stephenson, by Captain Claxton and Mr. Clarke. Since then the wooden pontoons used at the raising of the Conway tube have arrived, and, in addition, two iron pontoons of increased dimensions have been built on the spot. The tube adjoining that in which the concert was held, is quite completed, and has lately been tested, the rock beneath having been blasted for that purpose. It now rests without other support than that afforded by the masonry which upholds it at each end. The experiment has been perfectly successful, the tube having only deflexed 6 inches at its base, a fact which will give additional tension and strength to its arched roof. It is to be observed that the floor still maintains an upward arch, or camber. Every preparation is being made for the raising, which, it is supposed, will take place about the beginning of next month.

THE EARL OF ALDBOROUGH AND HOLLOWAY'S PILLS.—An astounding cure by this miraculous medicine, after every other means had failed. See extract from his lordship's letter, dated "Villa Messina, Leghorn, Feb. 21, 1845.—To Prof. Holloway.—Sir: I beg to acquaint you that your pills have effected a cure of a disorder in my liver and stomach, which all the most eminent of the faculty, at home and all over the continent, had not been able to effect—nay, not even the waters of Carisbad or Marienbad.—(Signed) ALDBOROUGH." These wonderful pills will cure any disease of the liver or stomach.—Sold (also Holloway's Ointment) at Professor Holloway's Establishment, 244, Strand, London, and by all medicine-venders throughout the civilised world.

39

WORKING RAILWAYS BY CONTRACT.—(Including Maintenance of Way).—This subject which has lately attracted much attention in the public prints, as well as privately, in railway circles, has induced some gentlemen of practical acquaintance with the details of the working of railways to form themselves into a company, for the purpose of carrying out the necessary arrangements with railway companies who may feel disposed to entertain the subject.

As it is fully intended to confine the number of shareholders as much as possible to those parties whose profession and habits have enabled them to gain experience in the object for which the company is proposed to be established, the particular attention of Engineers and Contractors is respectfully solicited to this announcement.

Further particulars may be had on applying by letter, from principals only, to the undersigned. E. B. WATSON, late of Leeds.

Matlock, May 9, 1849.

RIDER'S RAILWAY BRIDGE.

—This BRIDGE, BUILT wholly of IRON, will be ERECTED by the PATENTEE on the following terms:—

A BRIDGE, of 150 span, for a double track railway, broad gauge—Price £2000.
A BRIDGE, of 100 feet span, same dimensions—Price £1000.
These prices are exclusive of abutments or piers.
ROADWAY BRIDGES at a reduction on cost of from one-half to two-thirds.

Apply to Mr. S. MOULTON, Patentee, Bradford, Wilts, or to Mr. Howard Jacobson, Suffolk-lane, Thames-street, London.

CUNNINGHAM AND CARTER'S NEW SYSTEM OF RAILWAY PROPULSION.—Railway Directors, Engineers, and the public generally, are invited to examine this system, which may be VIEWED on Mondays, Wednesdays, and Saturdays, from half-past Eleven to Three o'clock, at Ingram's Manufactory, 29, CITY-ROAD, near Finsbury-square.

The following is an estimate of the daily expense of working a double line of 50 miles long, during a period of 10 hours, with trains starting from each terminus every half hour—six trains always running on the line:—

Coals for five stationary engines, of 100-horse power each, at 5 lbs. per horse-power per hour each (say, 11 tons, at 14s. per ton)				£	7	14 0
Wages—Enginemen, with relief,	10 at 6s.			£3 0 0		
,,	Stokers	ditto	10 at 4s.	2 0 0		
,,	Cleaners	ditto	10 at 2s. 6d.	1 5 0		
,,	Drivers	ditto	12 at 5s.	3 0 0		
,,	Guards	ditto	12 at 5s.	3 0 0		
,,	Twenty men stationed on the line, 3s.			3 0 0	=15	5 0
Repairs of engines, with depreciation, &c., at £200 per annum, each ×5=1000l. per annum—daily proportion					2	15 0
Contingencies					4	6 0
Total					£30	0 0

Forty trains, at 15s. per train=£30, being a fraction over 3½d. per train per mile, independent of a saving of one-third of the present expense in the maintenance of way.

INDURATED AND IMPERVIOUS STONE, CHALK, &c.—AGENTS, with capital, are WANTED in all TOWNS to SUPPLY (under British and Foreign Patents) the great demand for HUTCHISONISED MATERIALS—hard as granite, impervious to moisture, vermin, &c.; the cheapest and most durable for all buildings, hydraulic, paving, monumental and decorative work.—The profits are large.

Apply to HUTCHISON & CO., East Temple Chambers, London, or Tunbridge Wells, Kent, stating name, address, and capital at command.

N.B.—Houses cured of damp. The produce of soft stone quarries, chalk, plaster of Paris, wood, pasteboard, and all absorbent materials indurated to resist frost, vermin, &c. *LICENCES GRANTED.*

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These paints (the products of a patent process), possess peculiar and valuable properties not otherwise attainable, and are perfectly free from the deleterious qualities of white-lead. They surpass all other paints ever yet discovered in point of DURABILITY and ECONOMY; two coats being more than equal to three of any other description. From their chemical composition, they are pre-eminently adapted for covering IRON; also STUCCOED or BRICK BUILDINGS, and every kind of WOOD WORK. The process by which the base of these paints is produced, makes it impossible that any change should take place in their composition from atmospheric influence. Their identity with iron secures them from galvanic action, so fatal to the durability of lead and other paints on iron work.

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Their CHEAPNESS and STRENGTH render them peculiarly eligible for IRON BRIDGES, ROOFS, and RAILINGS, FARM BUILDINGS, and SHIPPING.

The attention of the SHIPPING INTEREST is particularly directed to the company's patent compound metallic BLACK PAINT (the only metallic black paint of any value in existence), which will be found to act as a most valuable preservative when applied to iron steam-boats, and wooden vessels. It also forms a beautiful covering for STOVES, and is susceptible of a high polish.

Several imitations of the Patent Alkali Company's paint having been sold under the name of IRON PAINT, the directors of the company deem it necessary to caution the public that no other iron paint is genuine, or partakes in any degree whatever of the properties of the company's paints, the base of the latter being obtained solely by a series of processes, which are protected by the company's patents, and to which alone is owing their extraordinary body, or covering power. Numerous and most satisfactory testimonials have been forwarded to the company's offices, copies of which may be had of the secretary or of the agents.

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Being so remarkable a CONDUCTOR of SOUND, is now being extensively applied for CONVEYING MESSAGES from ONE BUILDING, or PLACE, to ANOTHER. If a Tubing of this material, 1 inch diameter, be carried from the mouth of a mine, or pit, down the shaft, to various parts of the mine (no matter whether a quarter or half a mile distant), an instant communication may be established by means of the whistle, on Whishaw's principle, and a conversation carried on as distinctly as though the parties were but a few feet from each other. When these Tubes are in general use, they will greatly lessen the *loss of life in mines.*

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Continue to secure a continually increasing demand; they can be had of any size or length. Their durability and strength, permanent contractility and uniformity of substance, their non-susceptibility of injury from contact with oils, grease, acids, alkalies, or water, and the facility with which the only joint required can be made in bands of from 200 to 300 feet long, render them superior for almost all working purposes, and decidedly economical.

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All MEMBERS of BOARDS OF HEALTH are especially DIRECTED to the most EFFECTIVE MEANS which they can ADOPT to PREVENT the injurious and often FATAL EFFECTS upon the HEALTH of the COMMUNITY, arising from exhalations that are produced from moisture, decayed animal matter (as in grave-yards), stagnant water, and collections of fœtid refuse, tending to produce a miasmatic state of atmosphere. In situations so effected, the impervious quality of the ASPHALTE of SEYSSEL renders it the most perfect PAVEMENT or COVERING that can be relied upon for hermetically closing, and thereby preventing the rising of moisture and escape of noxious vapours. The present extensive application of this material for covering roofs, terraces, and arches, for preventing the percolation of wet, is strong evidence of its effectiveness for the above purposes, which is further confirmed by the following extract from the Report of the Commissioners on the Fine Arts:—

"In 1839, I superintended the construction of a house of three stories on the Lac d'Enghein. The foundation of the building is constantly in water, about 19½ inches below the level of the ground floor. The entire horizontal surface of the external and interwal walls was covered at the level of the internal ground floor with a layer of SEYSSEL ASPHALTE,* less than half an inch thick, over which coarse sand was spread.

Since the above date, no trace of damp has shown itself round the walls of the lower story, which are for the most part painted in oil, of a grey stone colour. It is well known that the least moisture produces round spots, darker or lighter, on walls so painted. Yet the pavement of the floor, resting on the soil itself, is only about 2½ in. above the external surface of the soil, and only 19½ in., at the utmost, above that of the sheet of water.

The layer of Asphalte having been broken and removed, for the purpose of inserting the sills of two doors, spots indicating the presence of damp have been since remarked at the base of the door-posts."

* This method has been adopted at the new Houses of Parliament.

Seyssel Asphalte Company, Stangate, London. I. FARRELL, Secretary.

PATENT RAILWAY AND OTHER CARRIAGE AXLES, MANUFACTURED BY THE

PATENT SHAFT AND AXLE-TREE COMPANY, *BRUNSWICK IRON-WORKS, WEDNESBURY, STAFFORDSHIRE.*

The Judicial Committee of the Privy Council having declared that the AXLES MADE BY THE PATENT SHAFT AND AXLE-TREE COMPANY had proved a PUBLIC BENEFIT in greatly conducing to the SAFETY of RAILWAY TRAVELLING, the exclusive right to manufacture has been extended for four years, on condition that the practice of charging a moderate price, proved hitherto to have been pursued, should be made imperative.

It was also proved that these Axles were in general use—upwards of 100,000 having been supplied to the English and Continental Railways, among whom are the London and North-Western, the Midland, and the Great Western; that they had withstood frequently severe tests applied by the engineers of these railways for the purpose of experiment, and others still more severe to which they were accidentally subjected in use. In one such instance a Patent Axle, 4¼ inches in diameter, sustained the whole force of a heavy train going at the rate of 60 miles an hour, by which it was twisted and bent nearly double, without showing the least fracture.

The patent principle of manufacture causes the axles to be equally strong in all directions, for the "faggot" is made in a cylindrical form, by the external bars being rolled of such a section as to fit accurately around a centre bar. This faggot, however large, is perfectly welded throughout its whole length at one heat, avoiding the necessity of the frequent heating and hammering of the ordinary mode, by which much risk is run of imperfectly welding, burning, and otherwise injuring the iron.

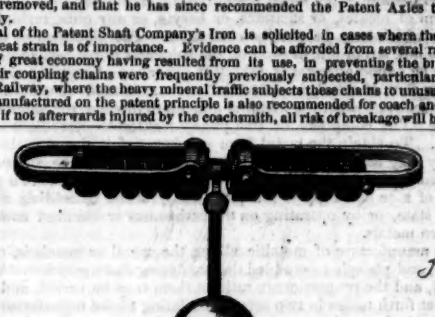
The use of this principle, combined with experience gained of the quality and admixture of the iron and mode of treatment best adapted to resist the strain to which an axle is subjected, enables the Patent Shaft Company uniformly to supply safe axles.

In all cases where the use of the Patent Shaft Company's Axles are specified for, it is respectfully recommended that information be sent to the works; for, although every Patent Axle is stamped with the company's name, worthless axles, made at an expense little beyond that of common bar-iron, have, in many instances, been substituted.

It was given in evidence before the Privy Council, by Robert Stephenson, Esq., M.P., that having, in consequence of an accident, tested a number of such common axles, he found 48 out of 50 broke so easily as to be perfectly unfit for use: that he ordered them all to be removed, and that he has since recommended the Patent Axles to be used exclusively.

The trial of the Patent Shaft Company's Iron is solicited in cases where the power to resist a great strain is of importance. Evidence can be afforded from several railway engineers, of great economy having resulted from its use, in preventing the breakage to which their coupling chains were frequently previously subjected, particularly on the Midland Railway, where the heavy mineral traffic subjects these chains to unusual strains.

Iron manufactured on the patent principle is also recommended for coach and carriage axles, for, if not afterwards injured by the coachsmith, all risk of breakage will be avoided.



WRIGHTON'S PATENT ELASTIC SCREW COUPLING.

The PROPRIETORS of this simple and useful INVENTION invite the attention of Railway Companies to the ADVANTAGES and ECONOMY to be derived from its general adoption. The severe tests to which it has been subjected on the Eastern Union Railway fully demonstrate that its application to trucks or goods waggons, with *dead draw hooks and solid buffers*, produces as perfect and beneficial a result *as a complete set of spring traction and buffing apparatus*, and at about one-fourth the cost of the cheapest that can be supplied. Its application to passenger carriages will be found equally beneficial in giving additional ease and elasticity to a train, and preventing the injurious shocks at starting and stopping so much complained of. For further particulars apply to Mr. Parsons, Albert-place, Lewisham; or at the Patent Office, 166, Fleet-street.

IMPROVED LIFTING JACKS,

MANUFACTURED BY

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Lifting Jacks,

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IMPROVED RATCHET JACK.

HALEY'S PATENT LIFTING JACK.

EXPLOSION AT WHITECHAPEL.

HENRY BAKER begs to call the attention of Engineers and Proprietors of Steam-Engines, to his newly-improved STEAM GUAGE, which shows the pressure and temperature of the Steam, as seen in the drawing annexed. It is an ornament to the engine-room, and supersedes the ordinary Mercurial Guage in these respects, by not being so cumbersome, much cheaper, and warranted accurate.

It has been tested at the Polytechnic Institution, London, with satisfactory results; and since the boiler explosion of the *Cricket* steam-boat this Guage has been adopted on board the steam-boats plying on the River Thames.

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